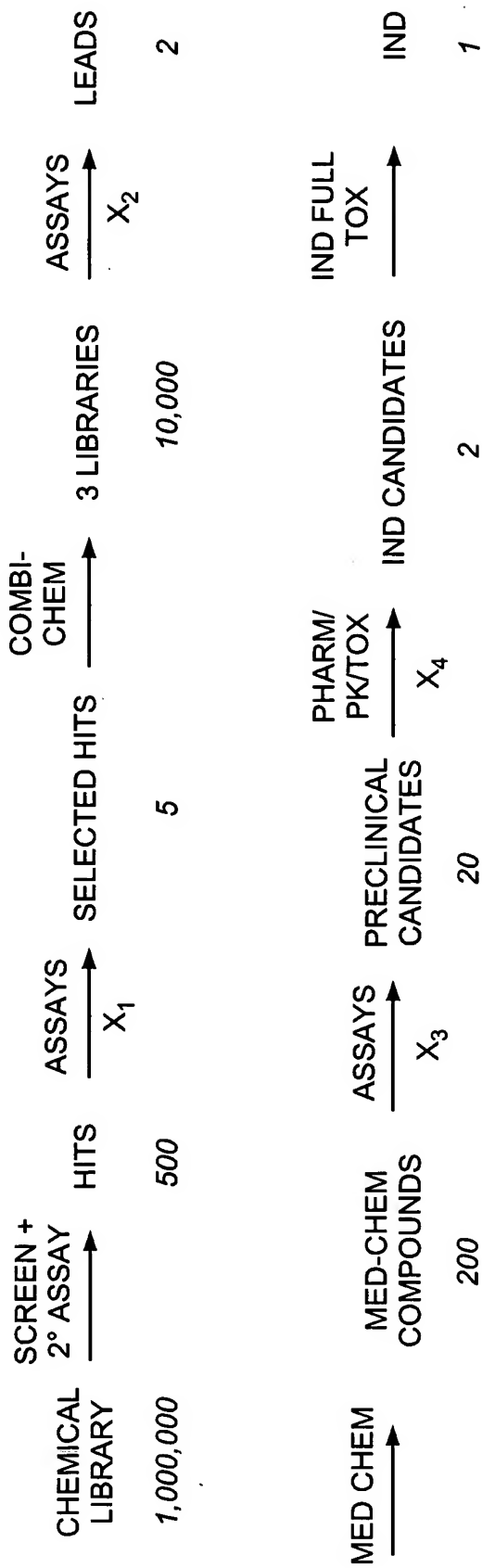


FIG. 1



PHASE 1 AND 2  
 $\xrightarrow{X_5}$   
 SAFE AND EFFECTIVE DRUG

$X_1, X_2, X_3 =$  PHYSIOCHEMICAL ANALYSIS  
 IN VITRO TOXICOLOGY  
 GENE EXPRESSION PROFILING

$X_4 =$  IN VIVO GENE PROFILING

$X_5 =$  SURROGATE MARKER

FIG. 2

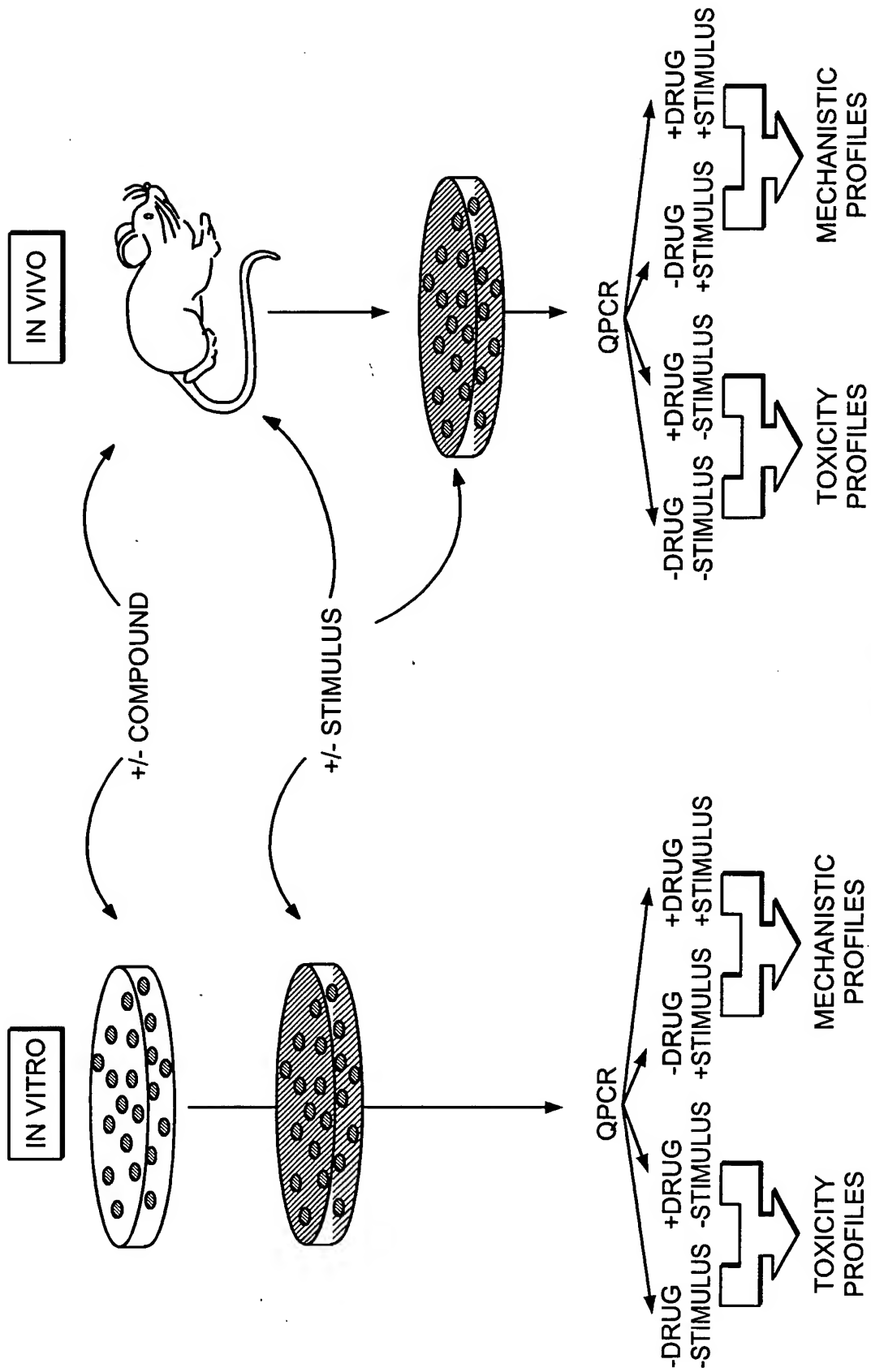


FIG. 3

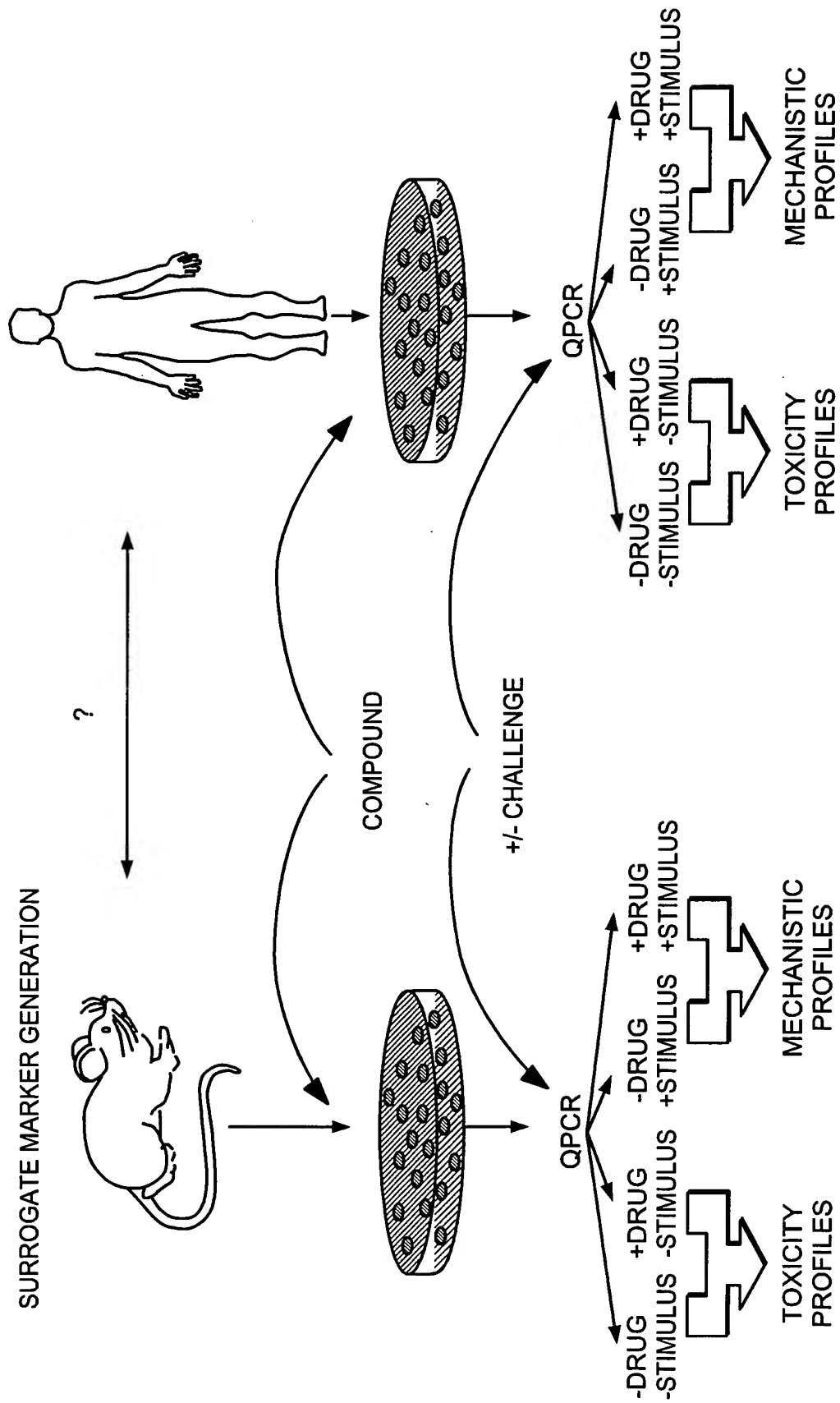


FIG. 4

PRODUCING A "CALIBRATED SELECTED PROFILE"

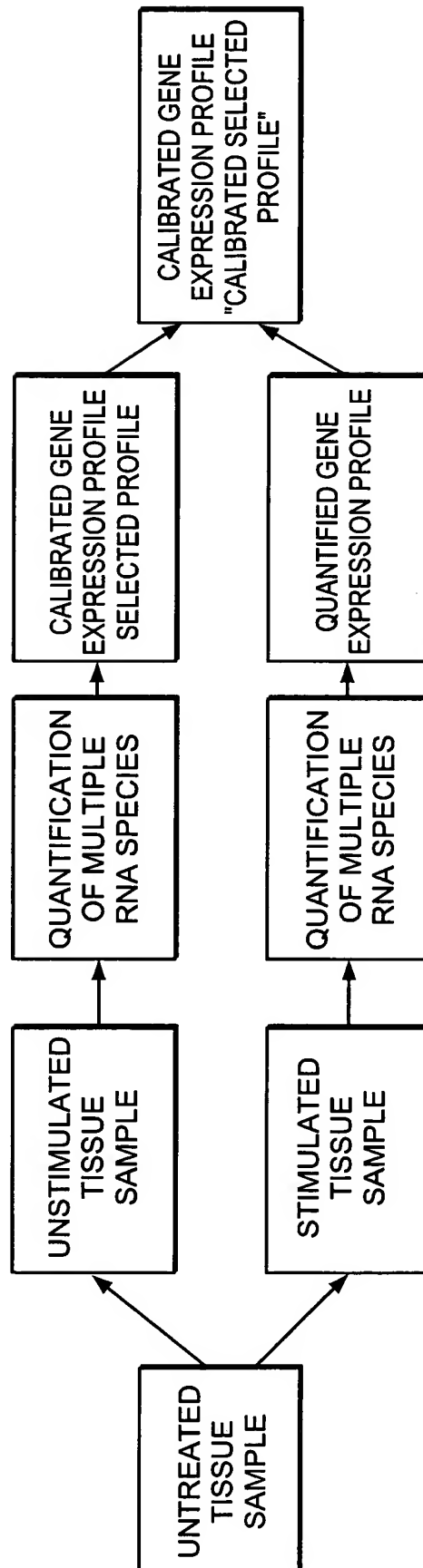


FIG. 5

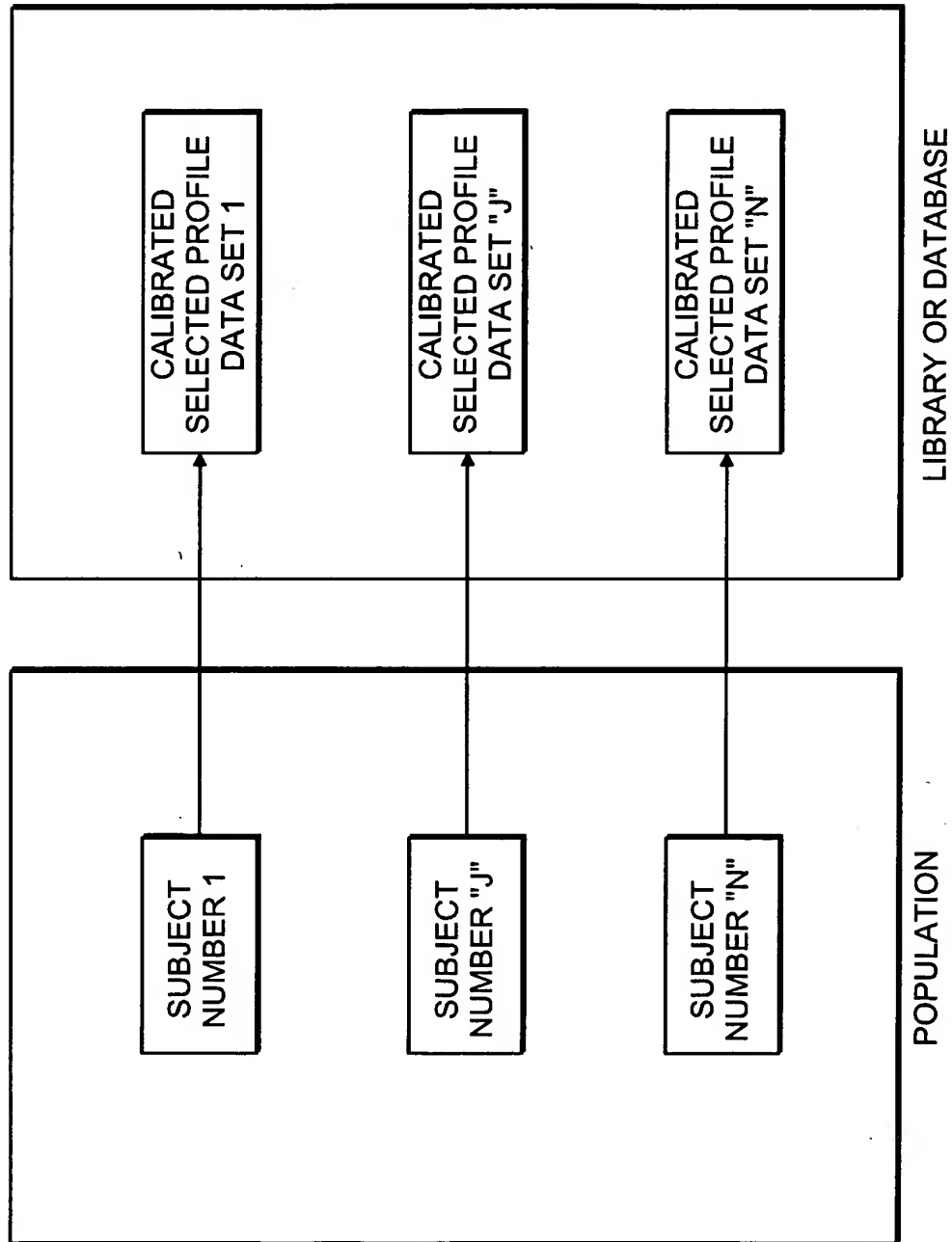
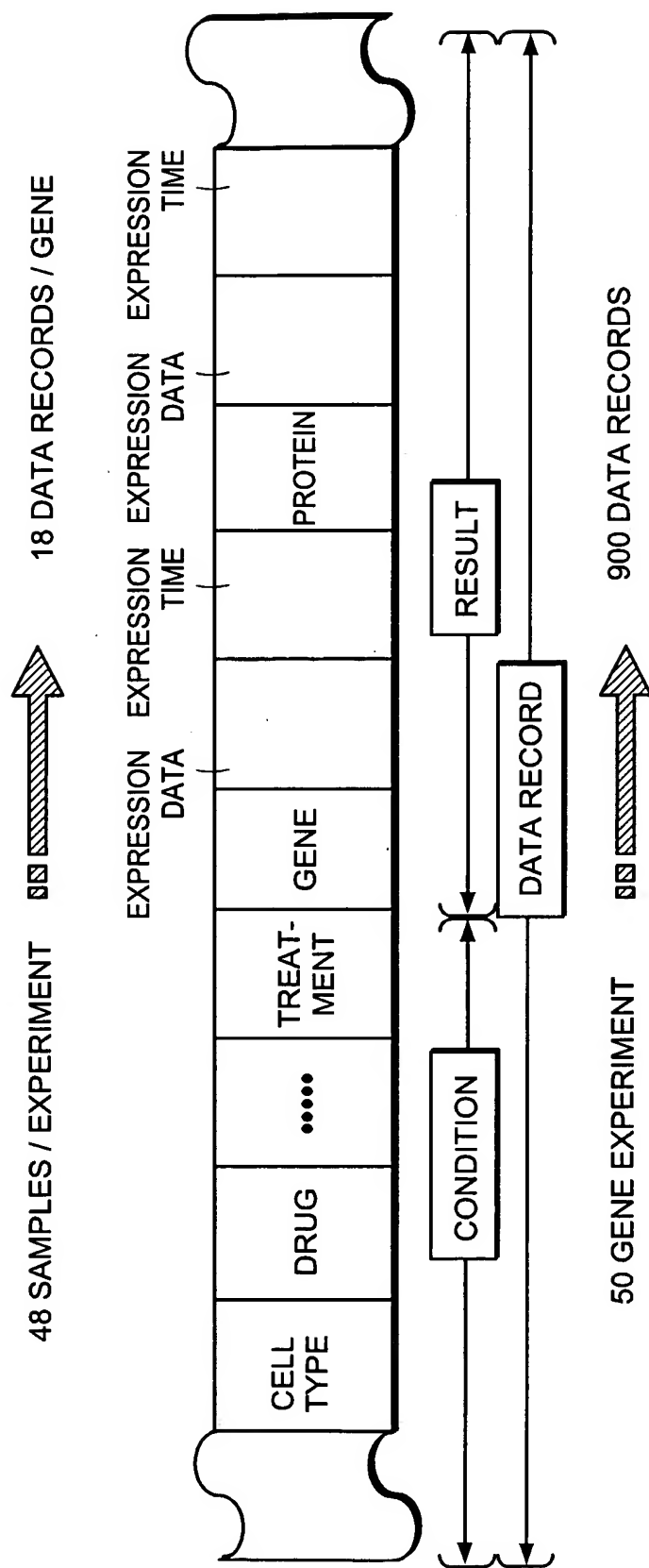


FIG. 6



EACH NEW RECORD IMPROVES THE PREDICTIVE POWER OF THE DATABASE AND INCREASES ITS VALUE

FIG. 7

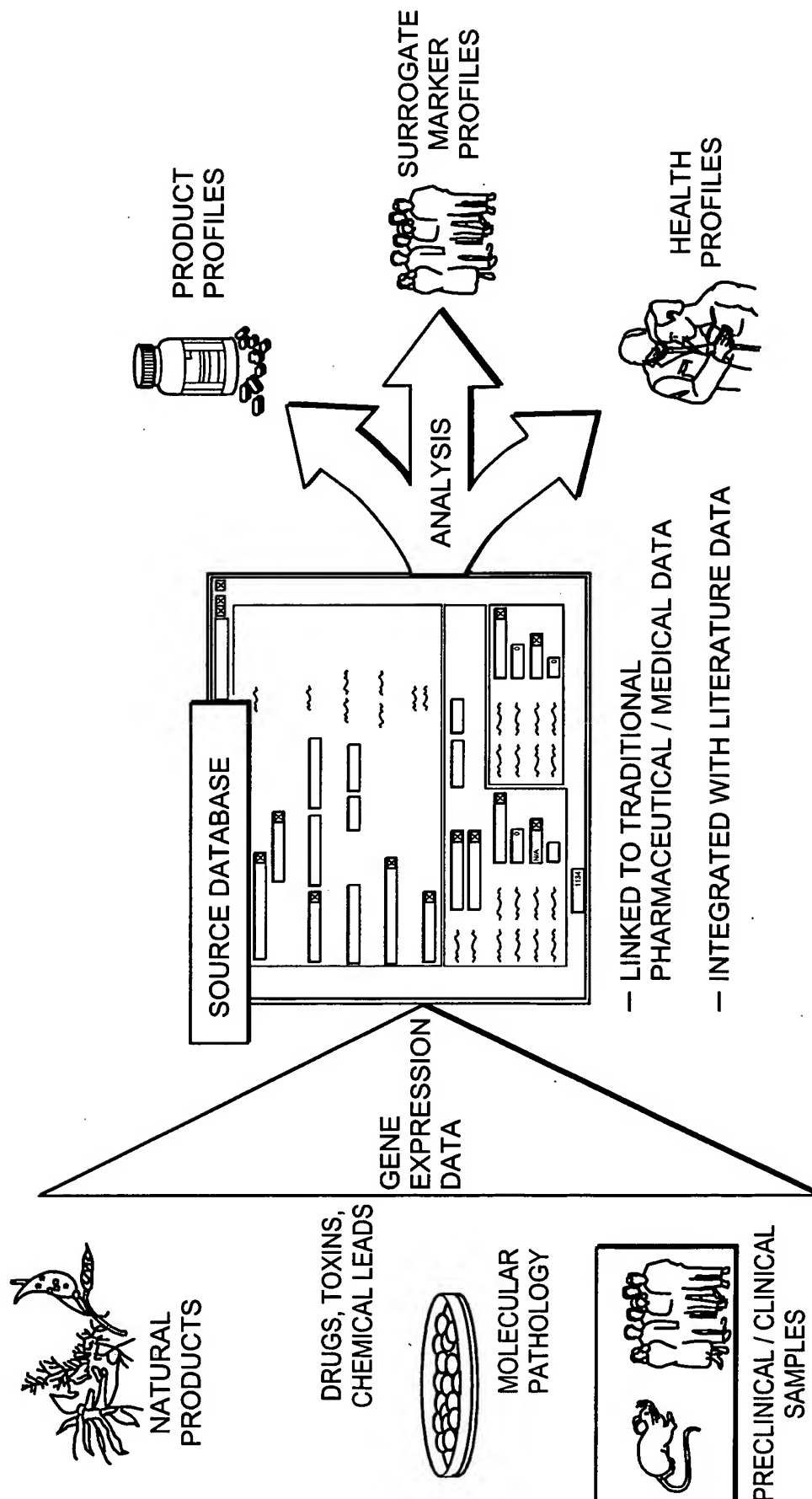


FIG. 8



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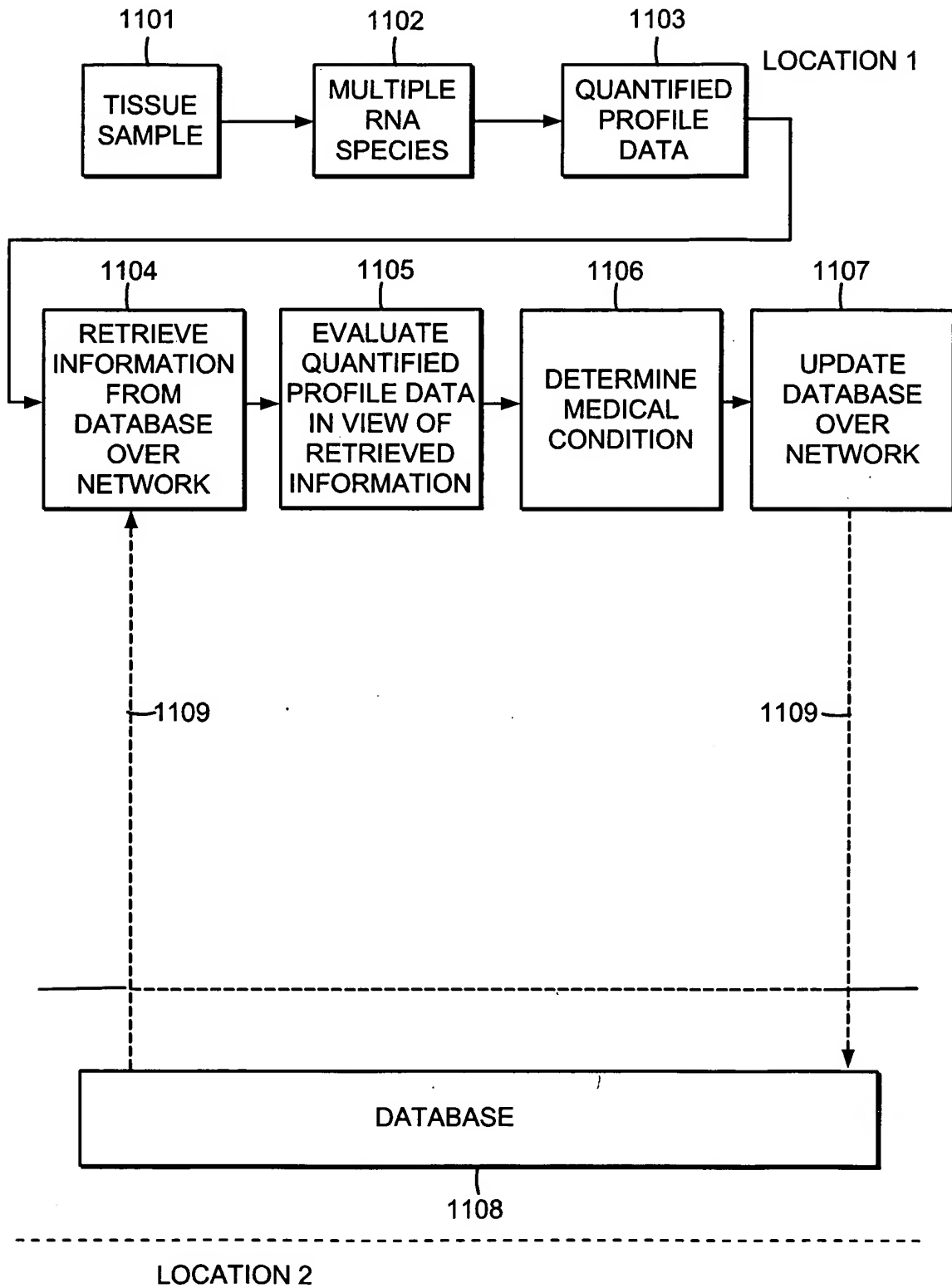


FIG. 9

# PHASE TWO CLINICAL TRIAL DESIGN USING SELECTED PROFILING

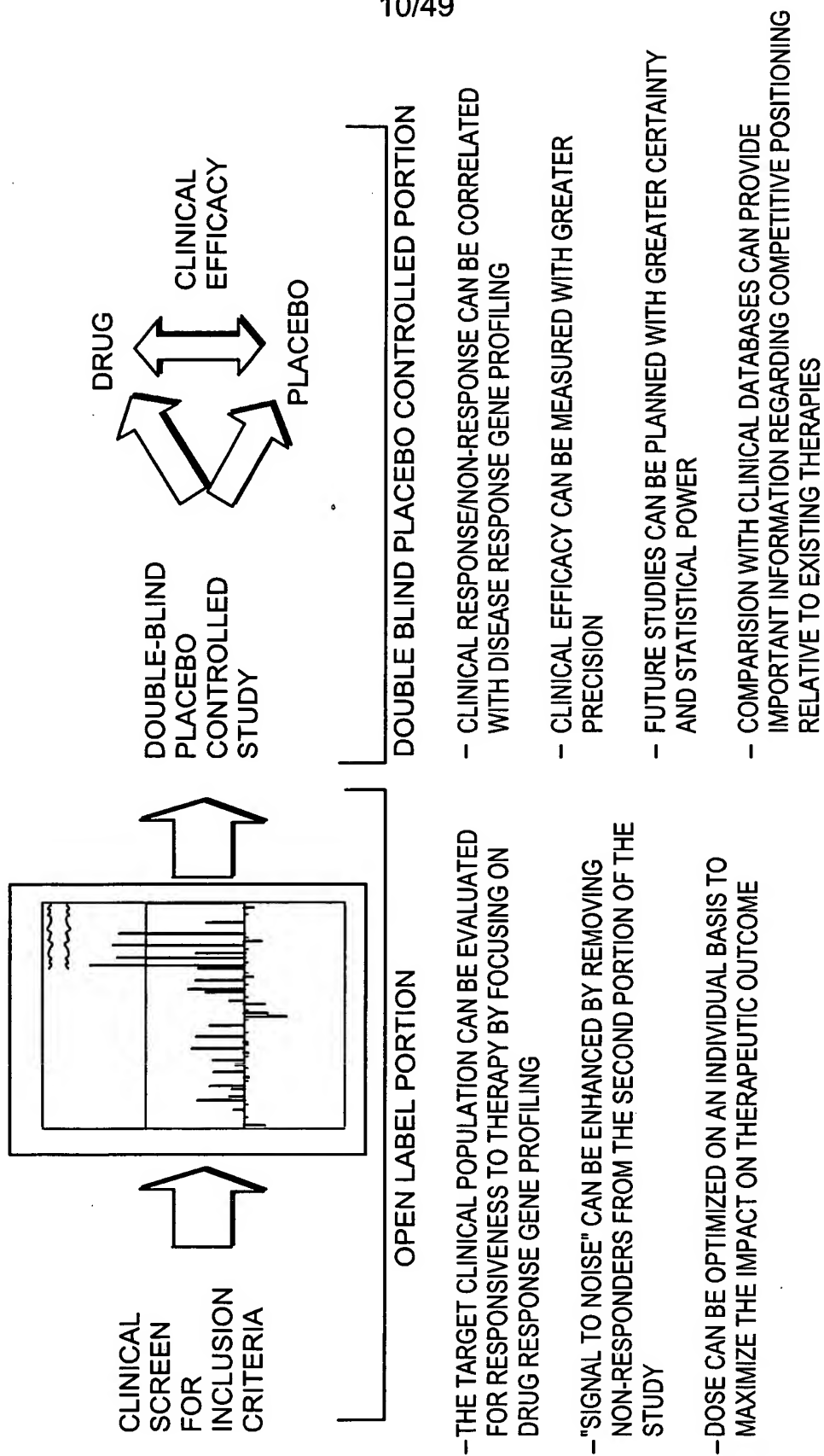


FIG. 10a

FIG. 10b

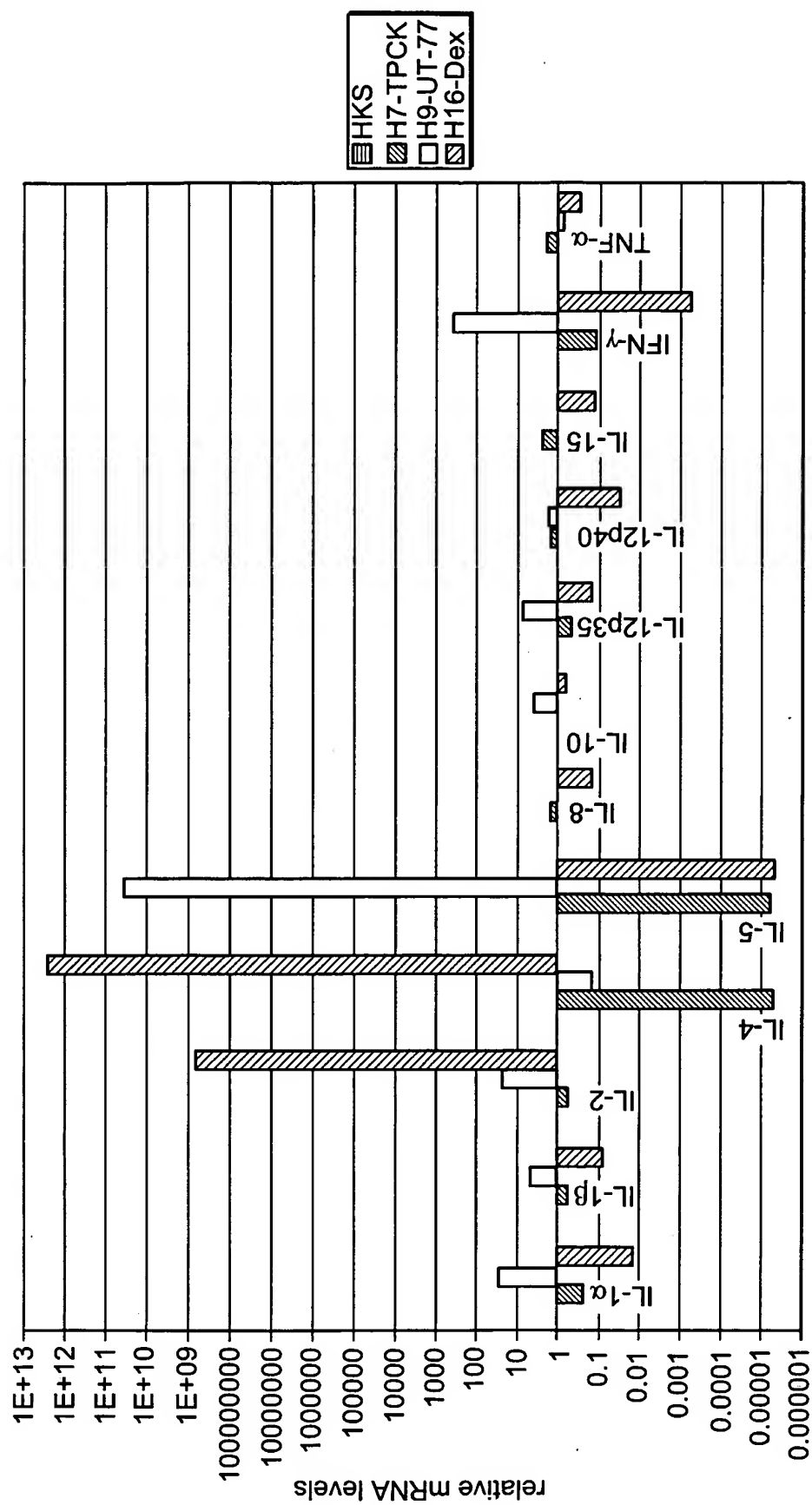


FIG. 11a

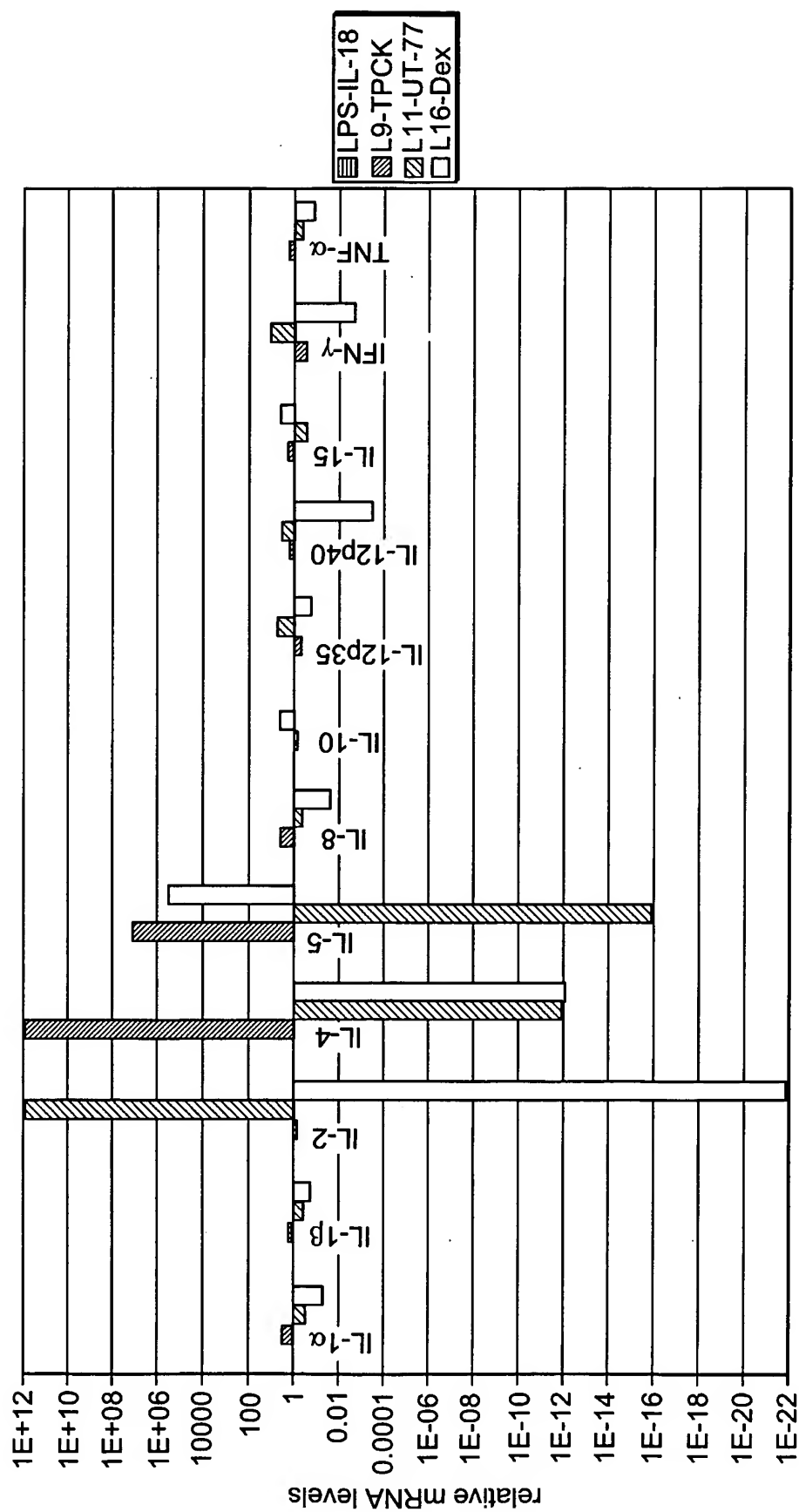


FIG. 11b

COMPARATIVE DRUG PROFILING SHOWS DIFFERENCES AMONG ANTI-INFLAMMATORY DRUGS WITH DIFFERENT MECHANISM OF ACTION

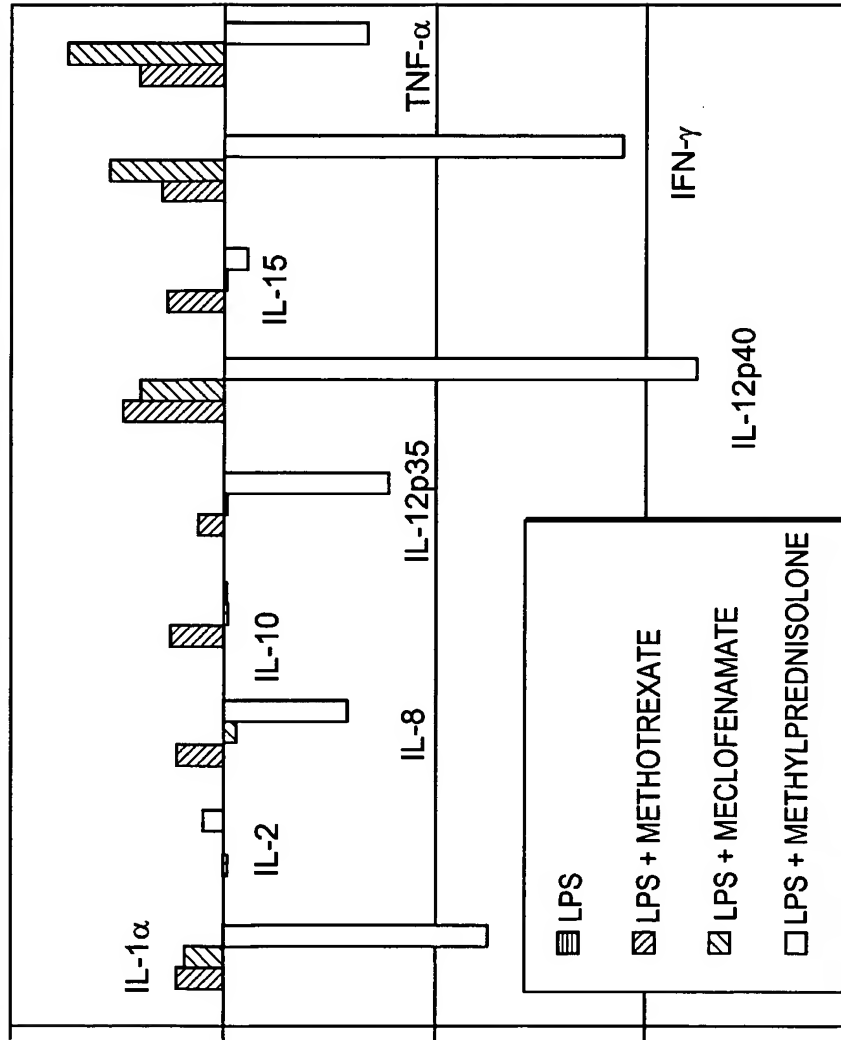


FIG. 12a

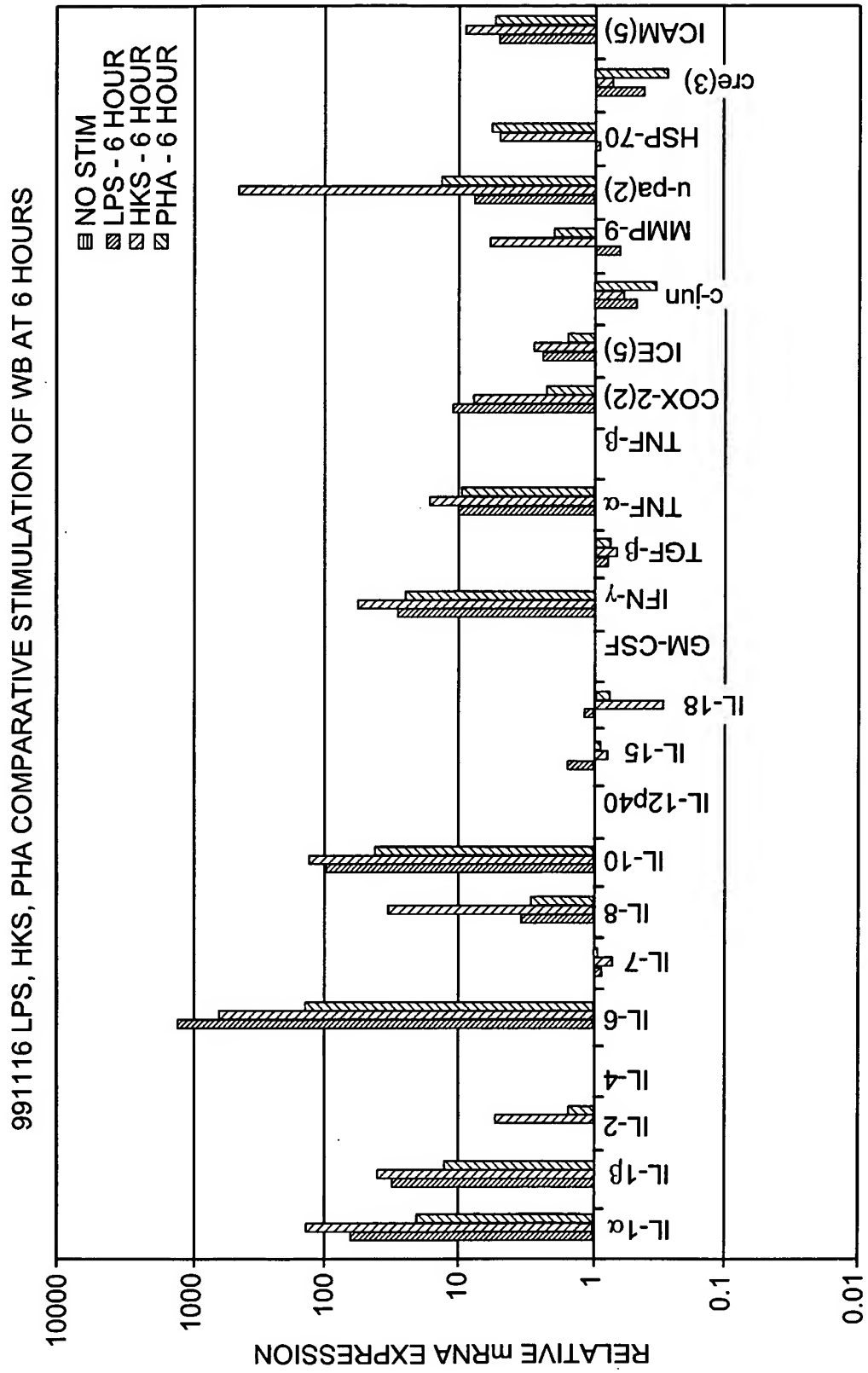


FIG. 13a

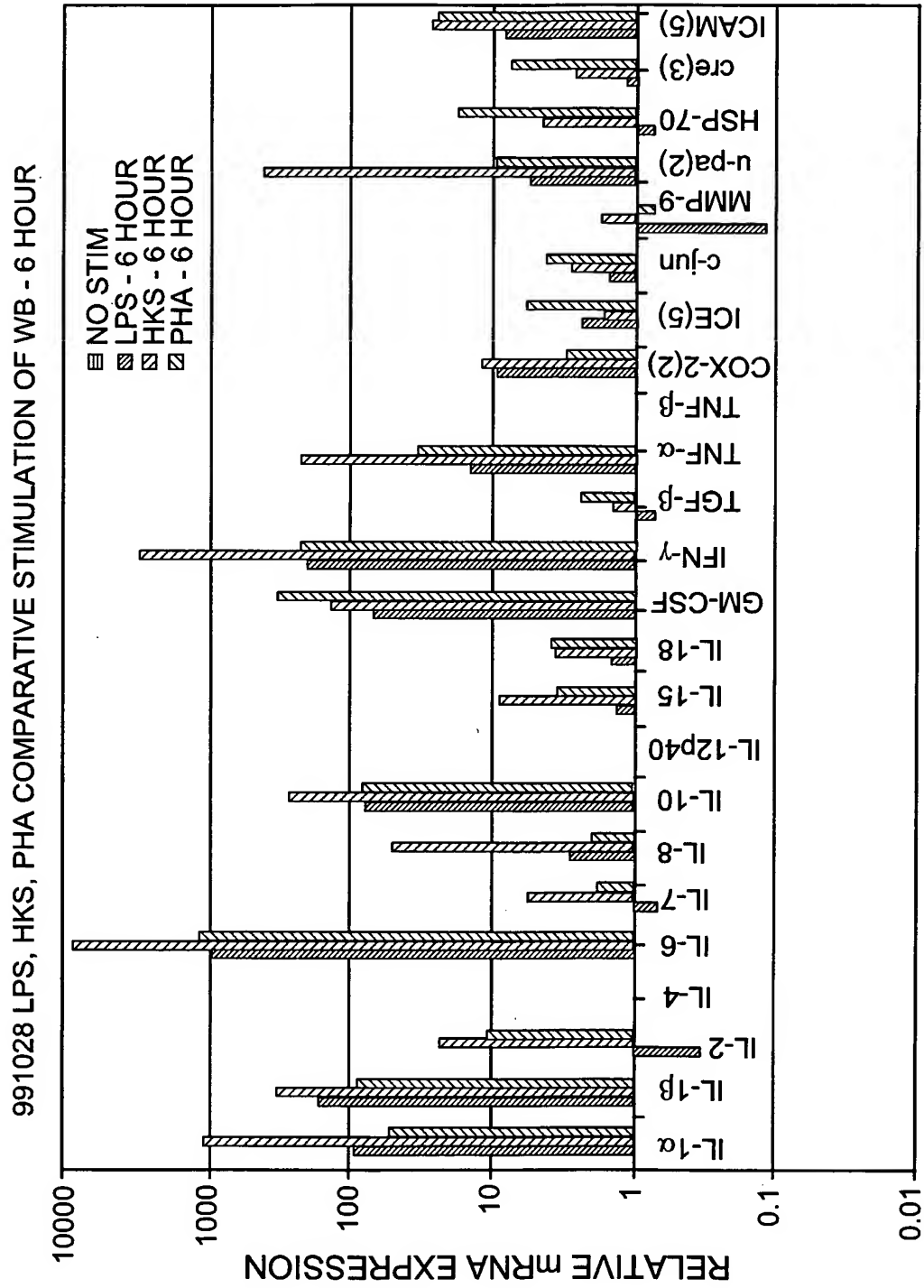


FIG. 13b

INDIVIDUAL COMPARISON OF LPS STIMULATION • 991026 VS. 991116 DONOR: TK

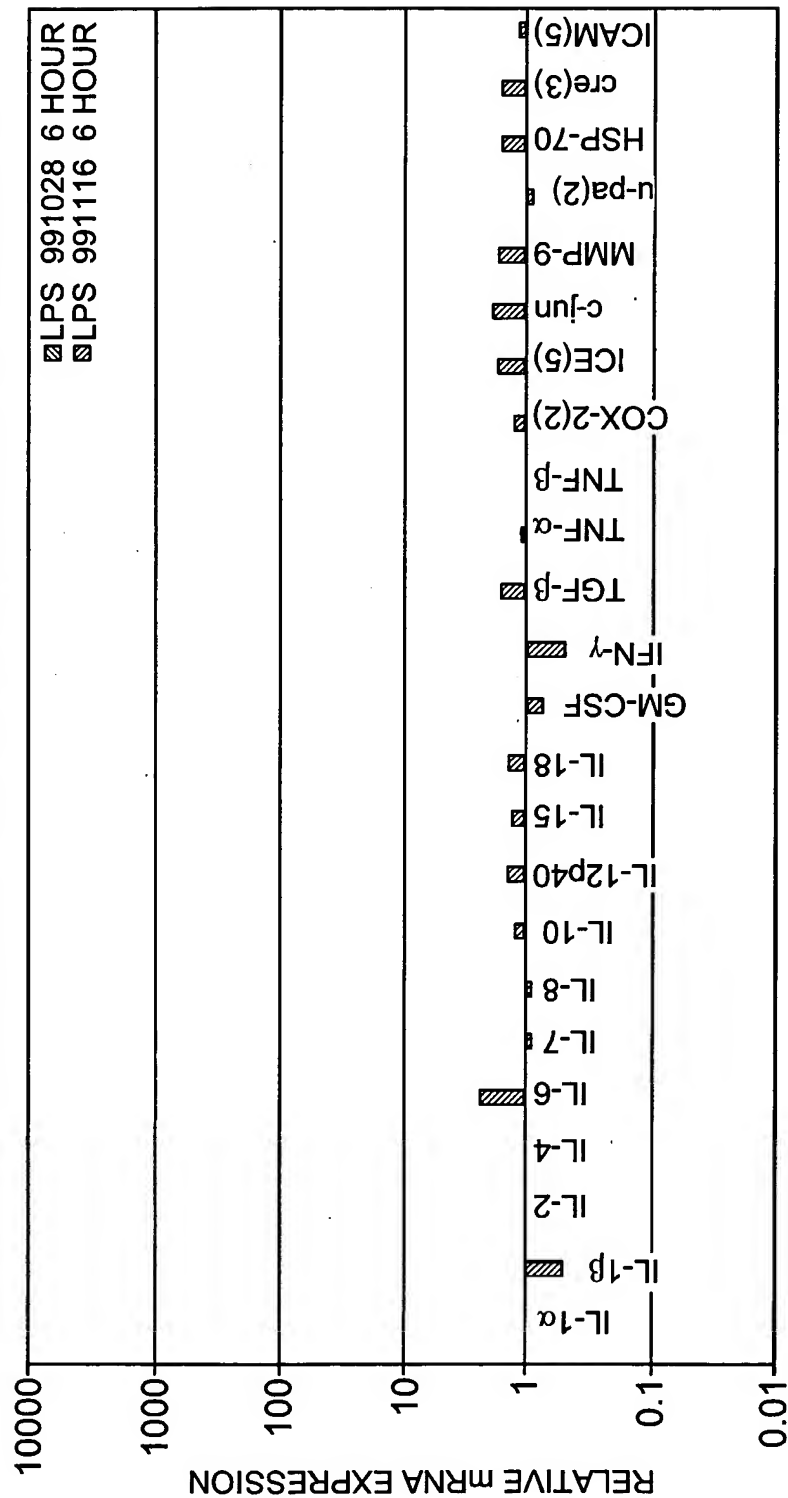


FIG. 13c



INDIVIDUAL COMPARISON OF DONOR SAMPLE WITH NO STIMULATION  
6 HOUR - 991028 VS. 991116 DONOR: TK

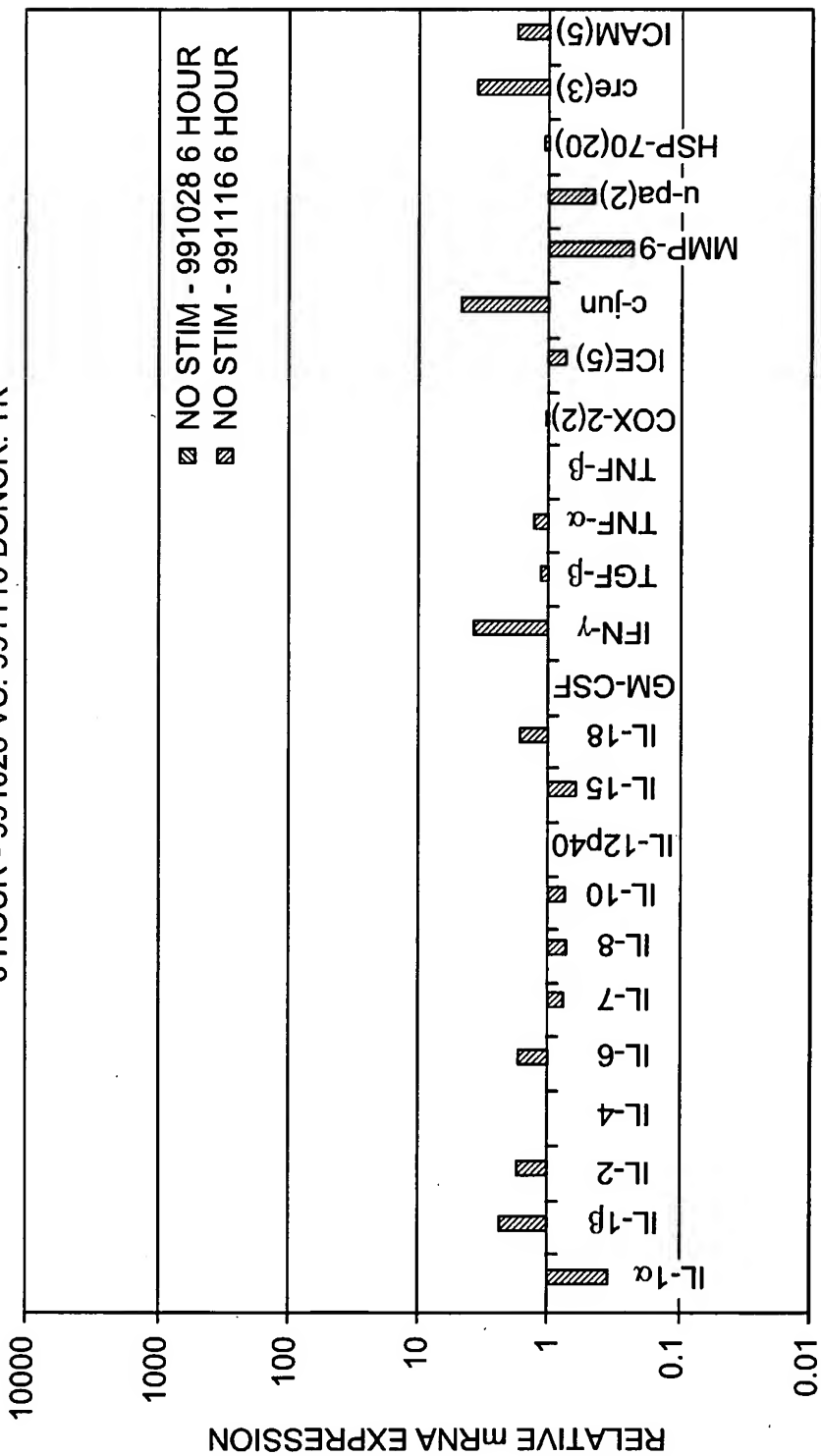


FIG. 13d

STIMULANT EFFECT ON METHYL PREDNISOLONE GENE EXPRESSION IN WHOLE BLOOD - 6 HOUR

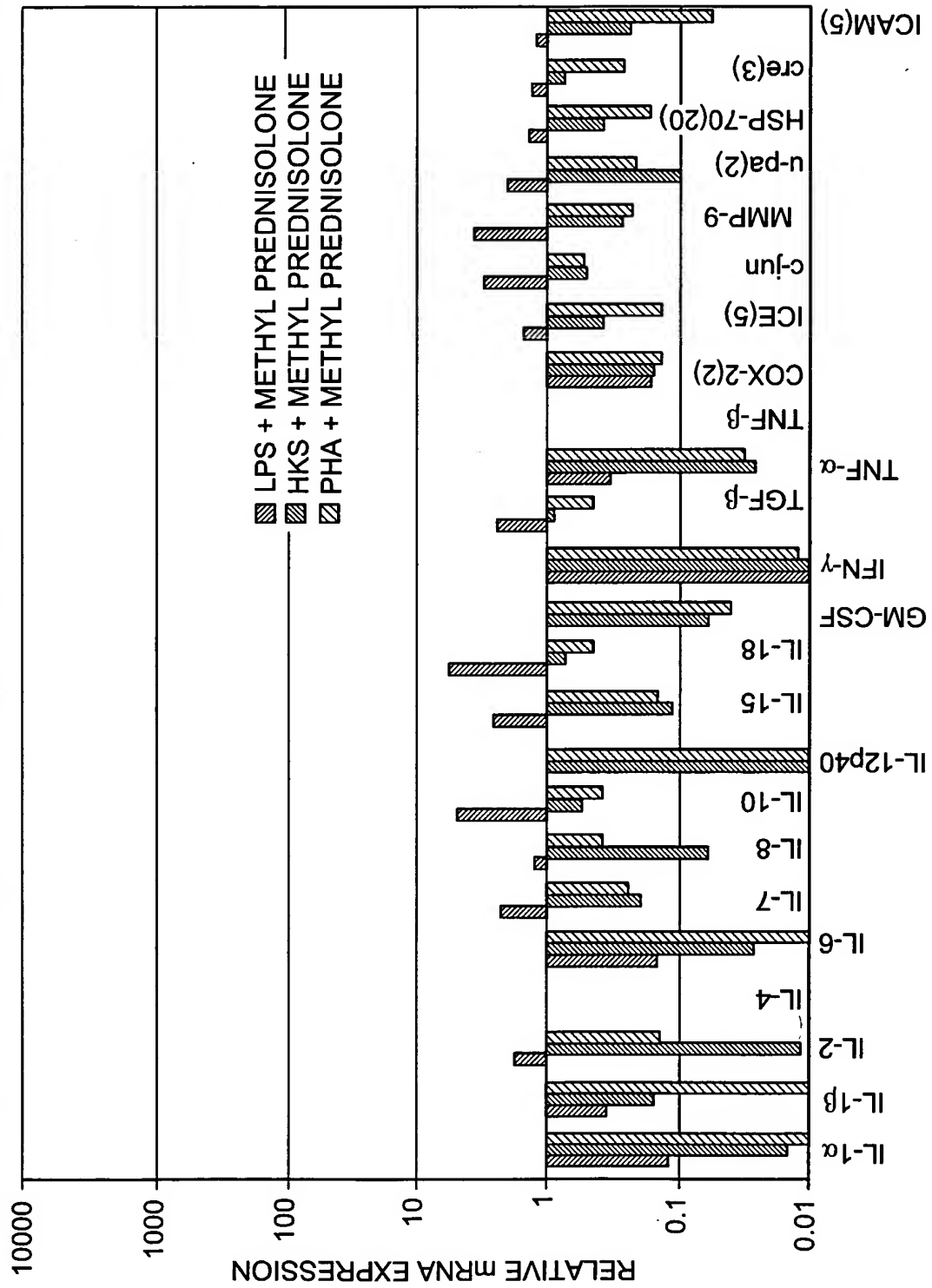
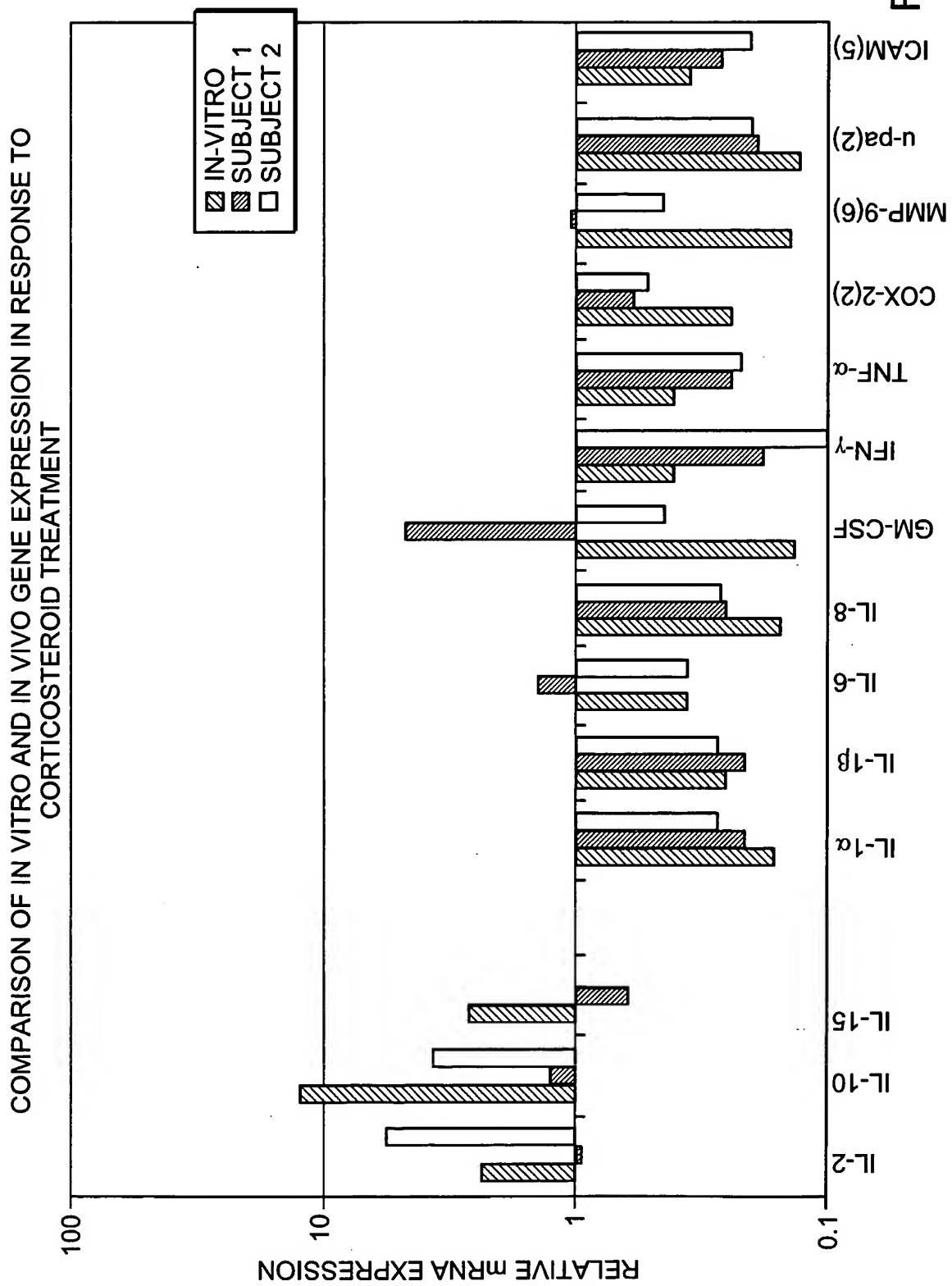


FIG. 14

FIG. 15



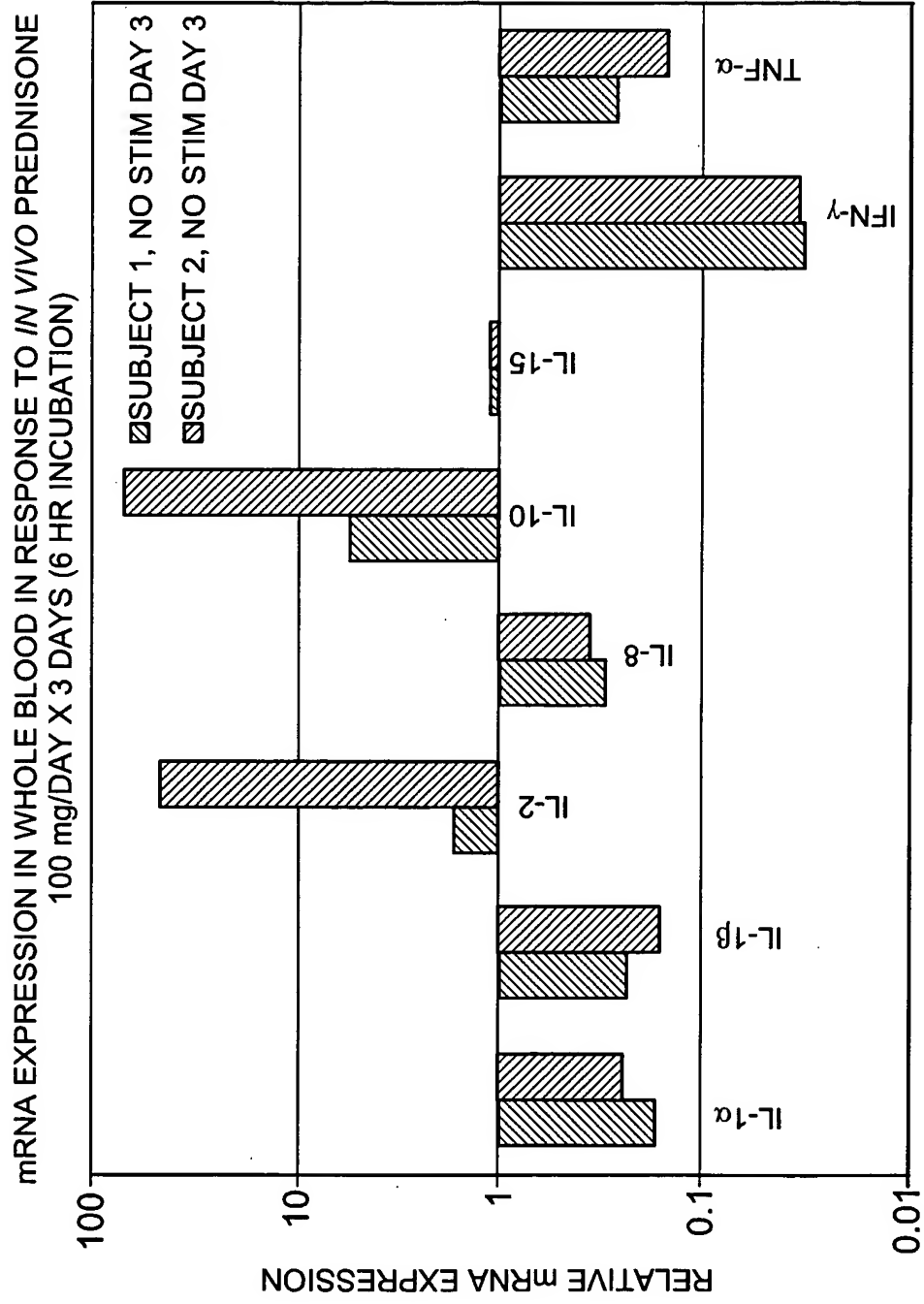


FIG. 16a

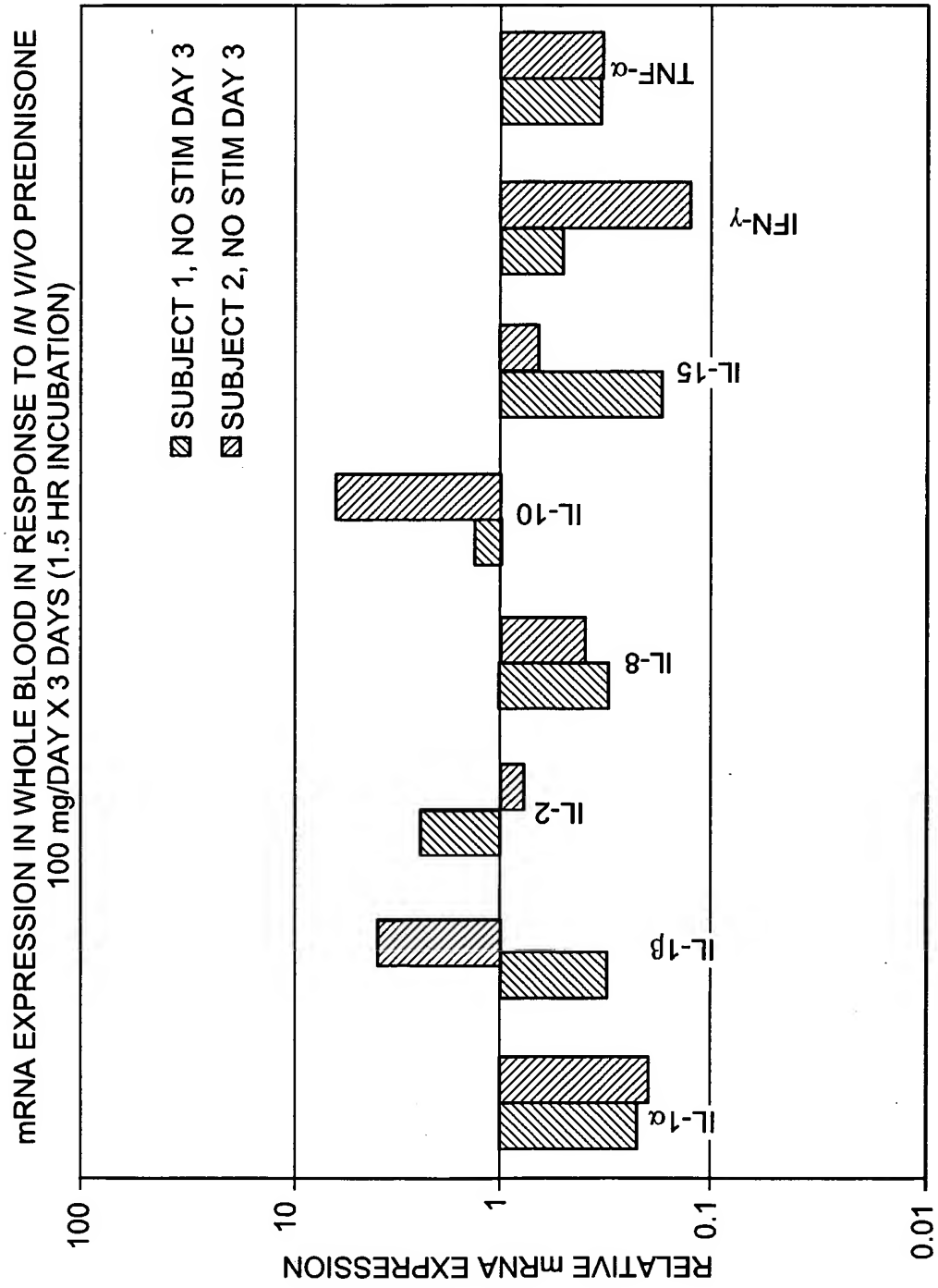


FIG. 16b

INDIVIDUAL COMPARISON - 991028 VS. 991116  
DONOR: TK

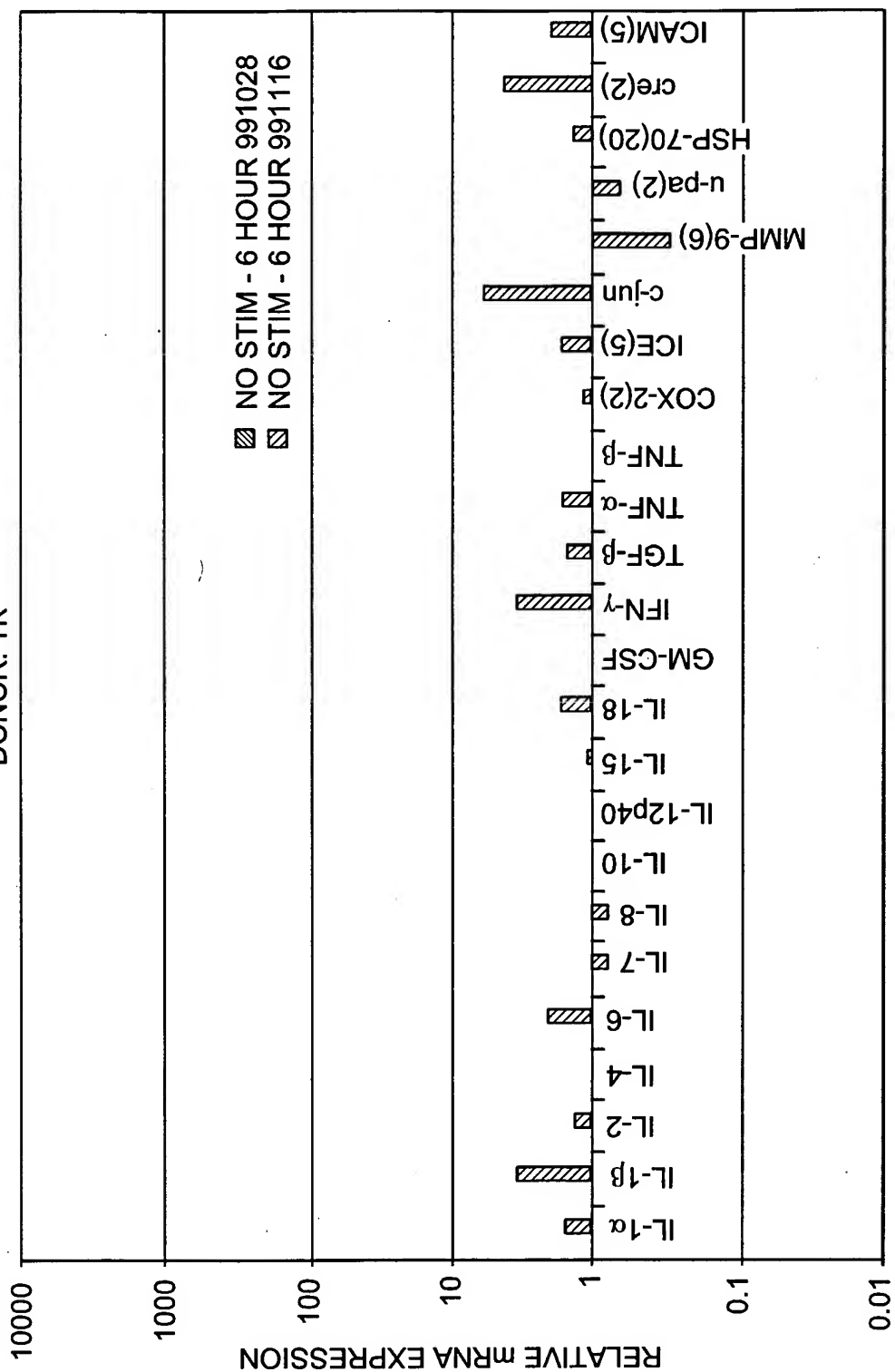


FIG. 17

PB001 STUDY 2, STAGE 3  
EFFECTS OF DRUG ON WHOLE BLOOD  
DONOR 1

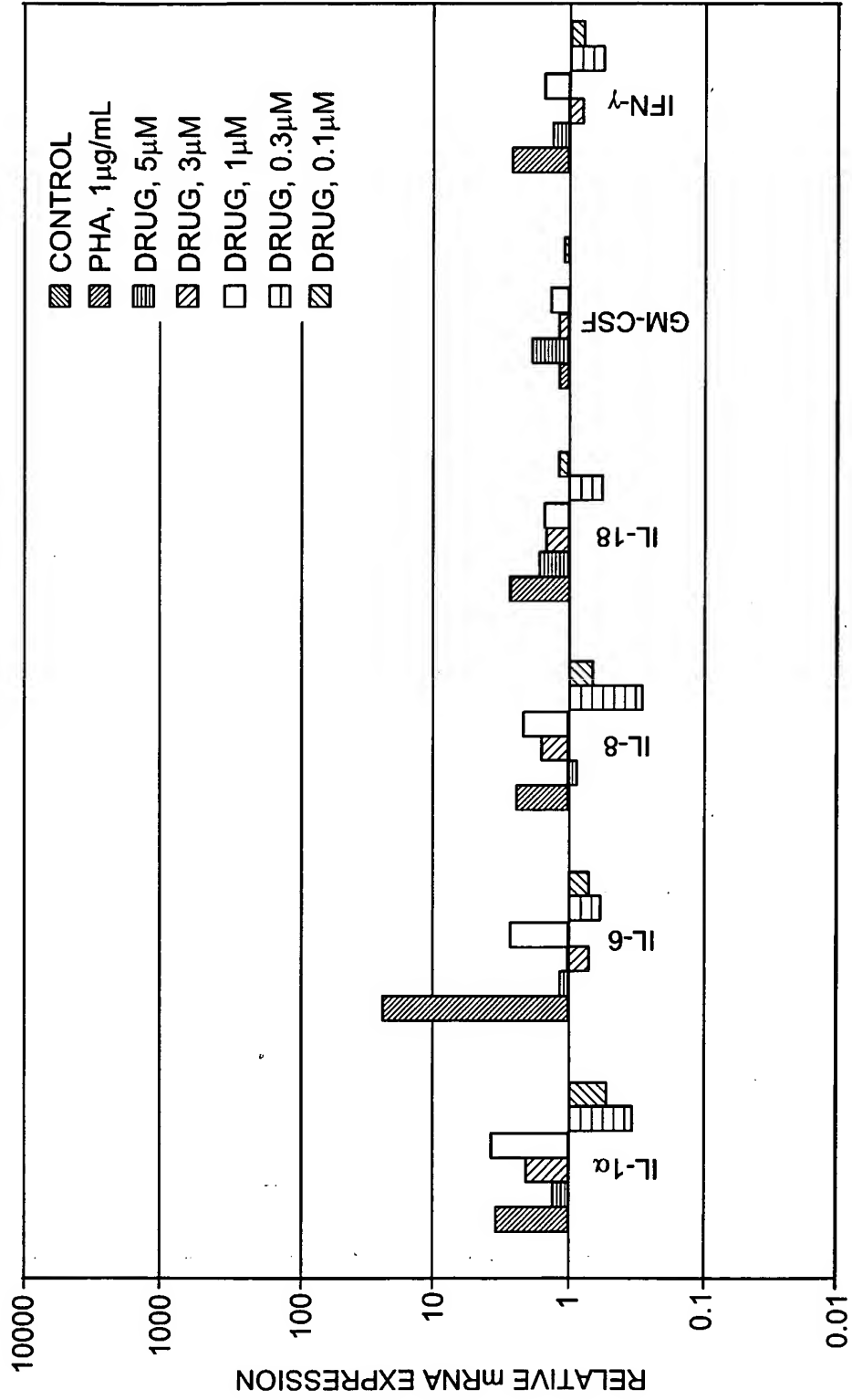


FIG. 18a

PB001 STUDY 2, STAGE 3  
EFFECTS OF DRUG ON WHOLE BLOOD  
DONOR 2

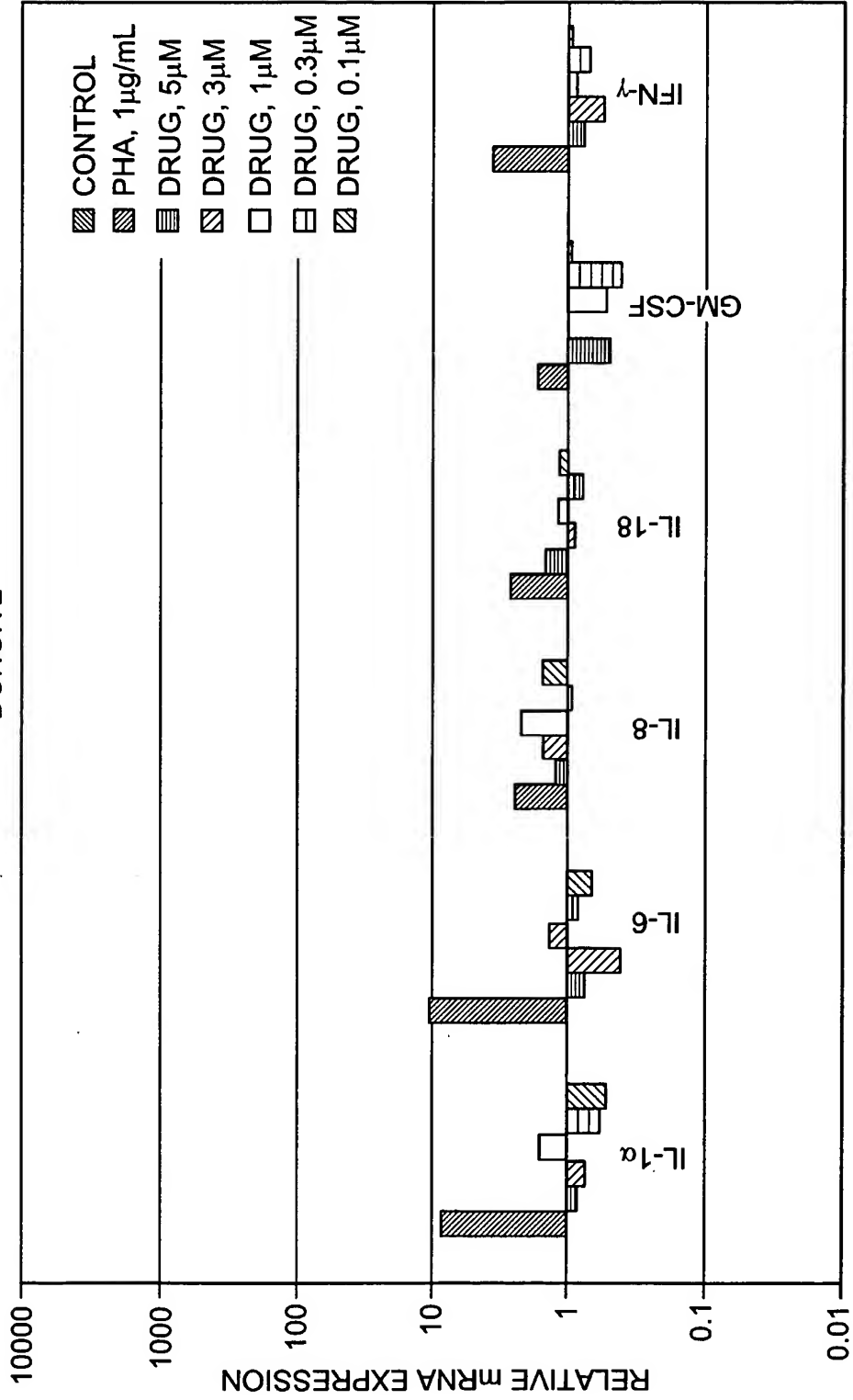


FIG. 18b



PB001 STUDY 2, STAGE 3  
EFFECTS OF DRUG ON WHOLE BLOOD  
DONOR 3

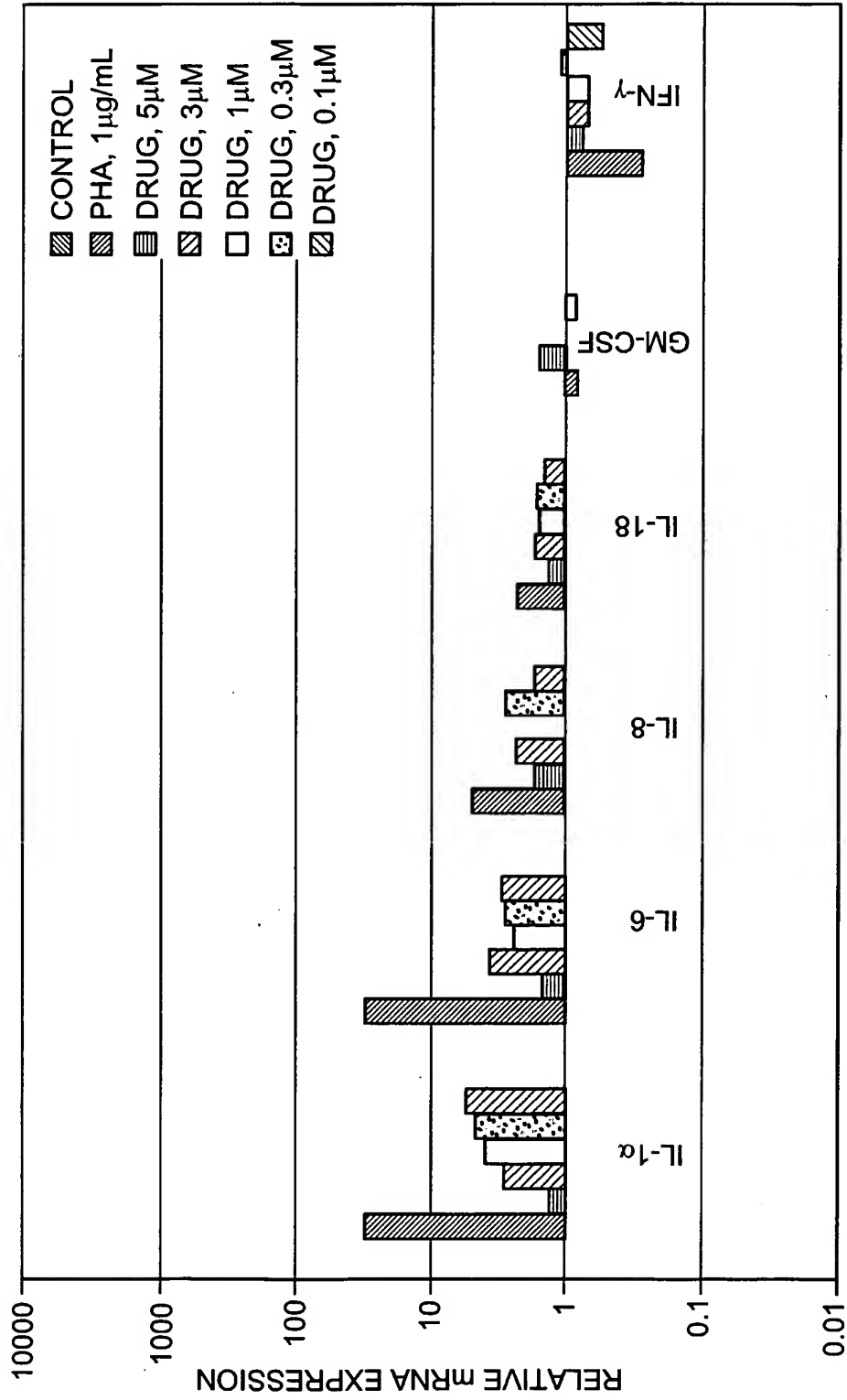


FIG. 18c

PB001 STUDY 2, STAGE 3  
EFFECTS OF DRUG ON WHOLE BLOOD  
DONOR 4

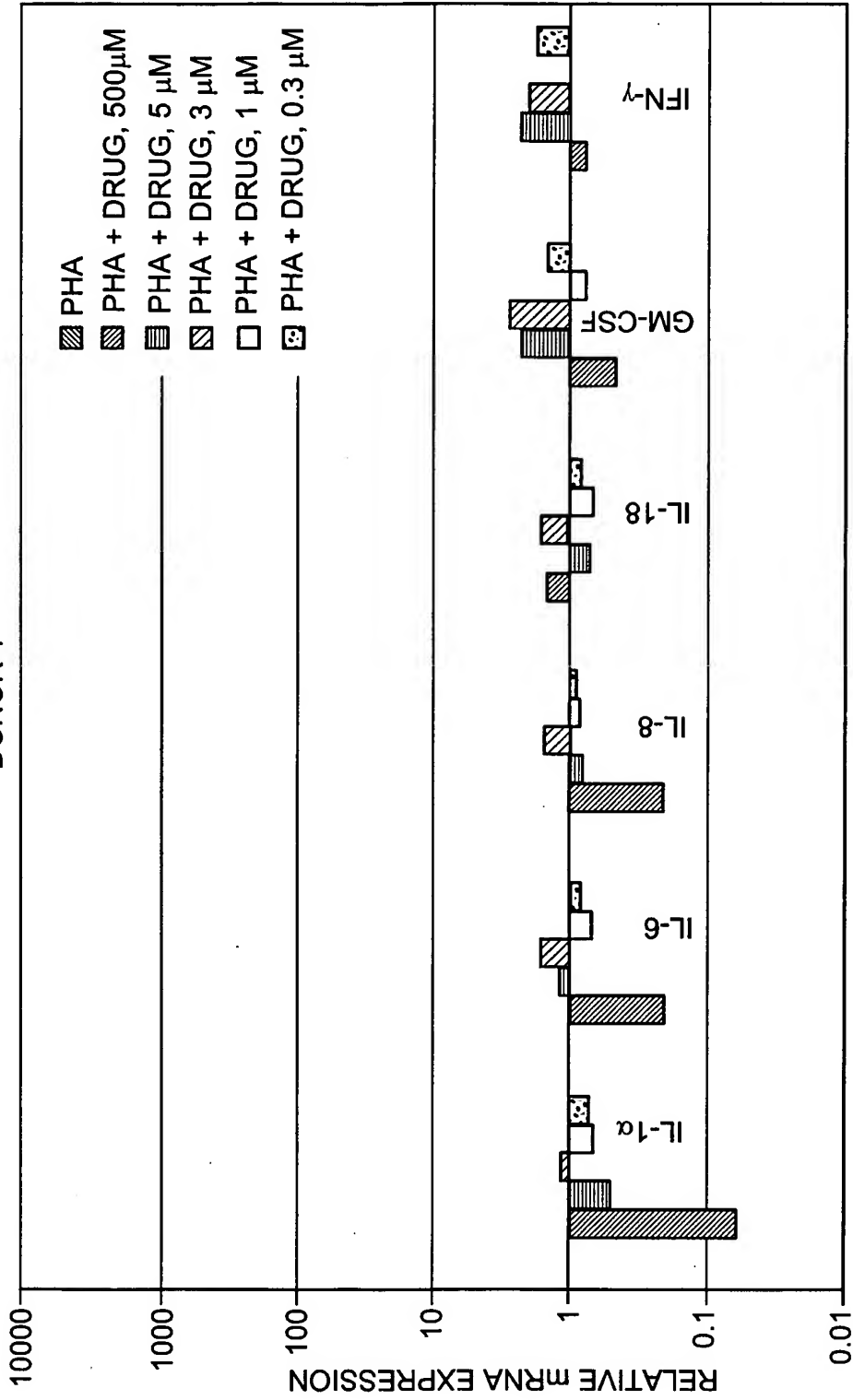


FIG. 18d

PB001 STUDY 2, STAGE 3  
EFFECTS OF DRUG ON WHOLE BLOOD  
DONOR 5

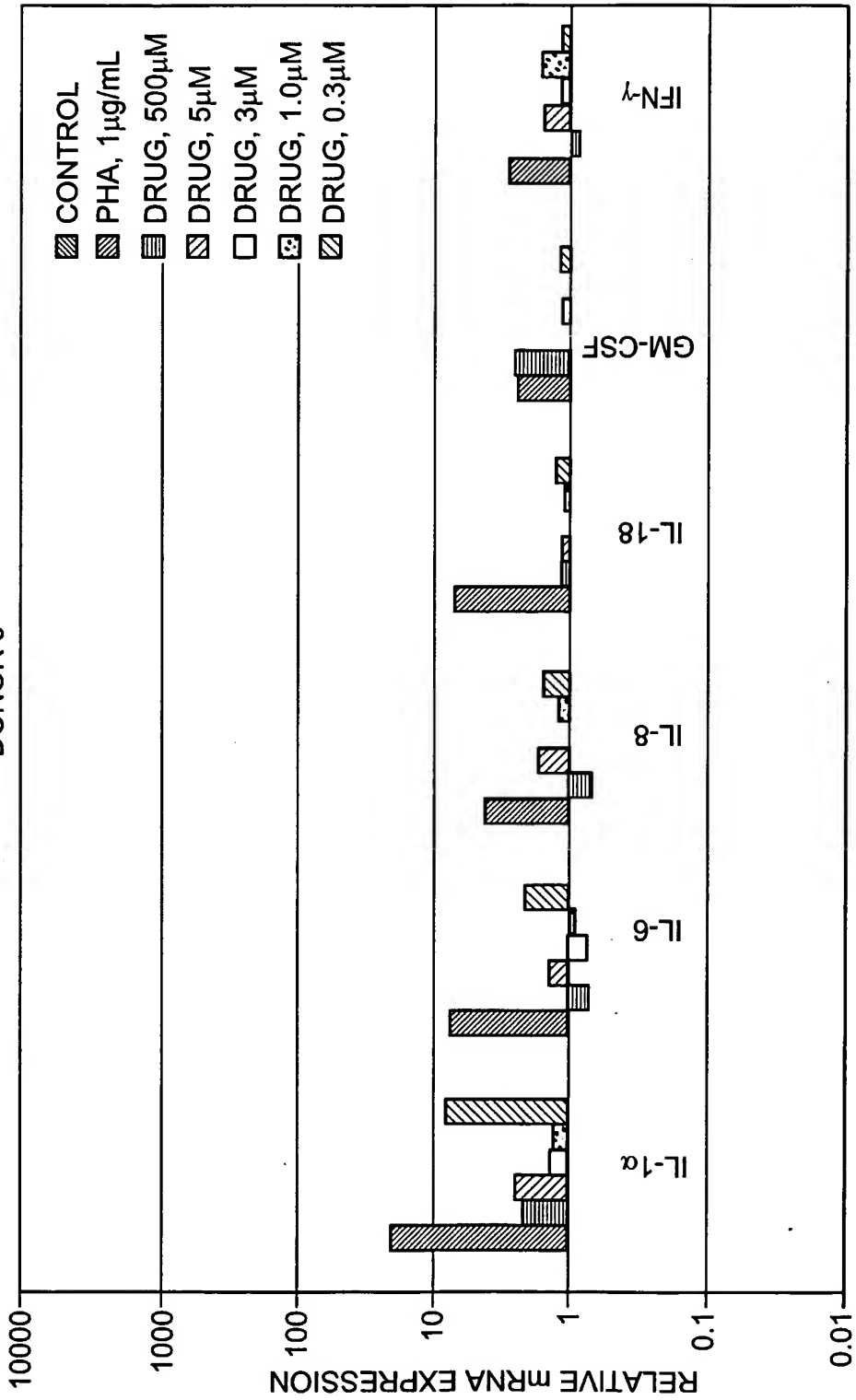


FIG. 18e

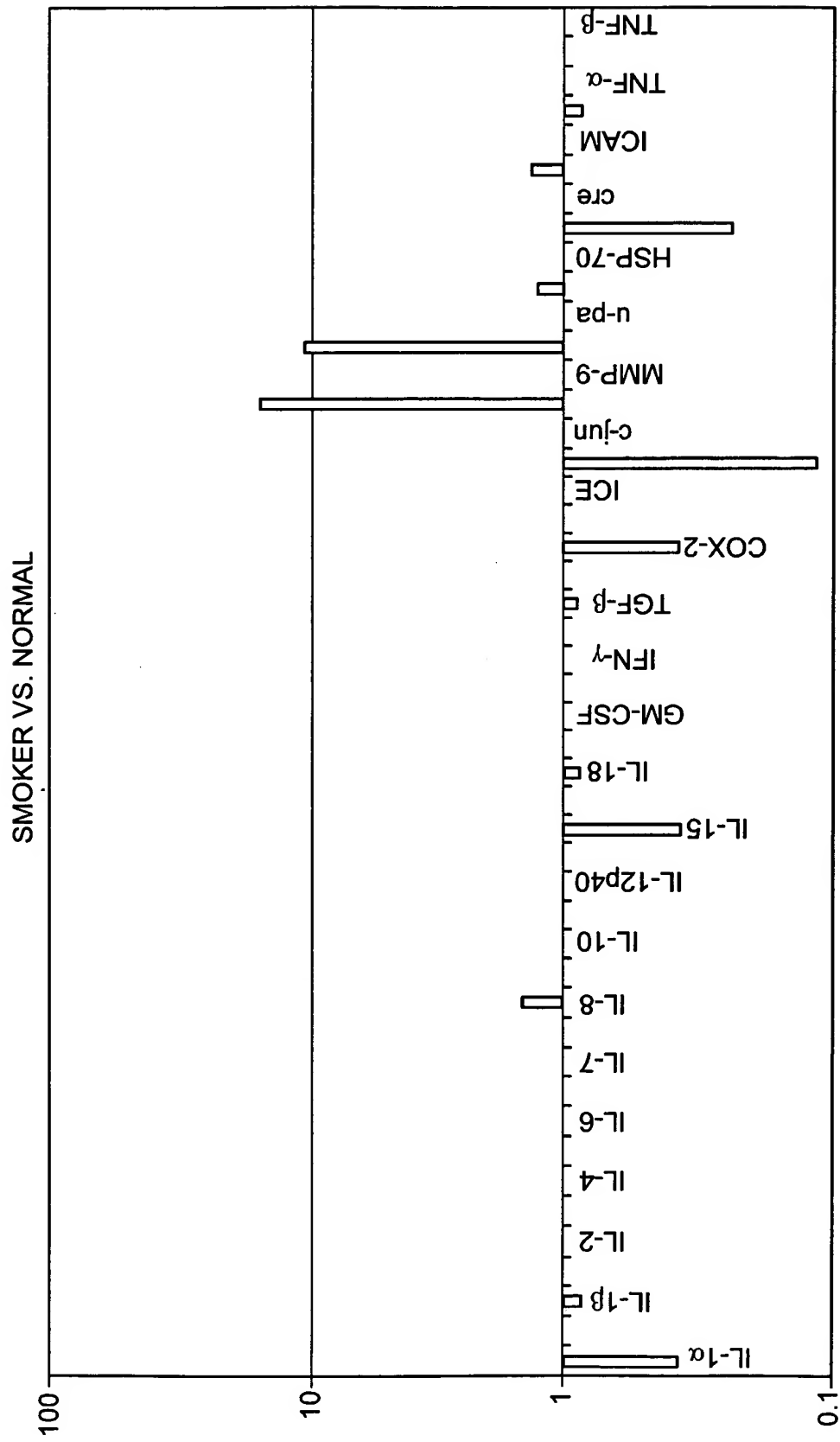


FIG. 19a

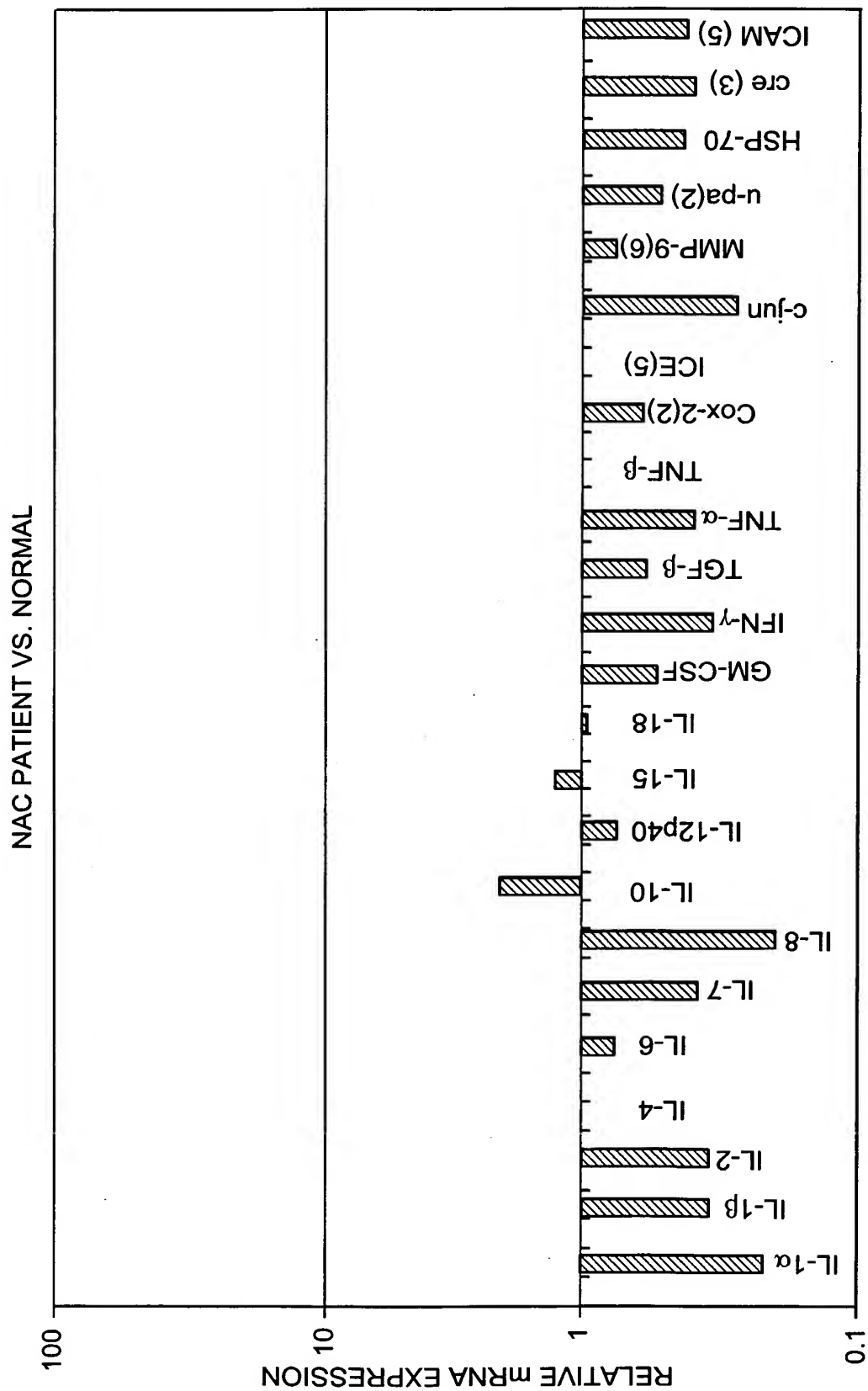


FIG. 19b

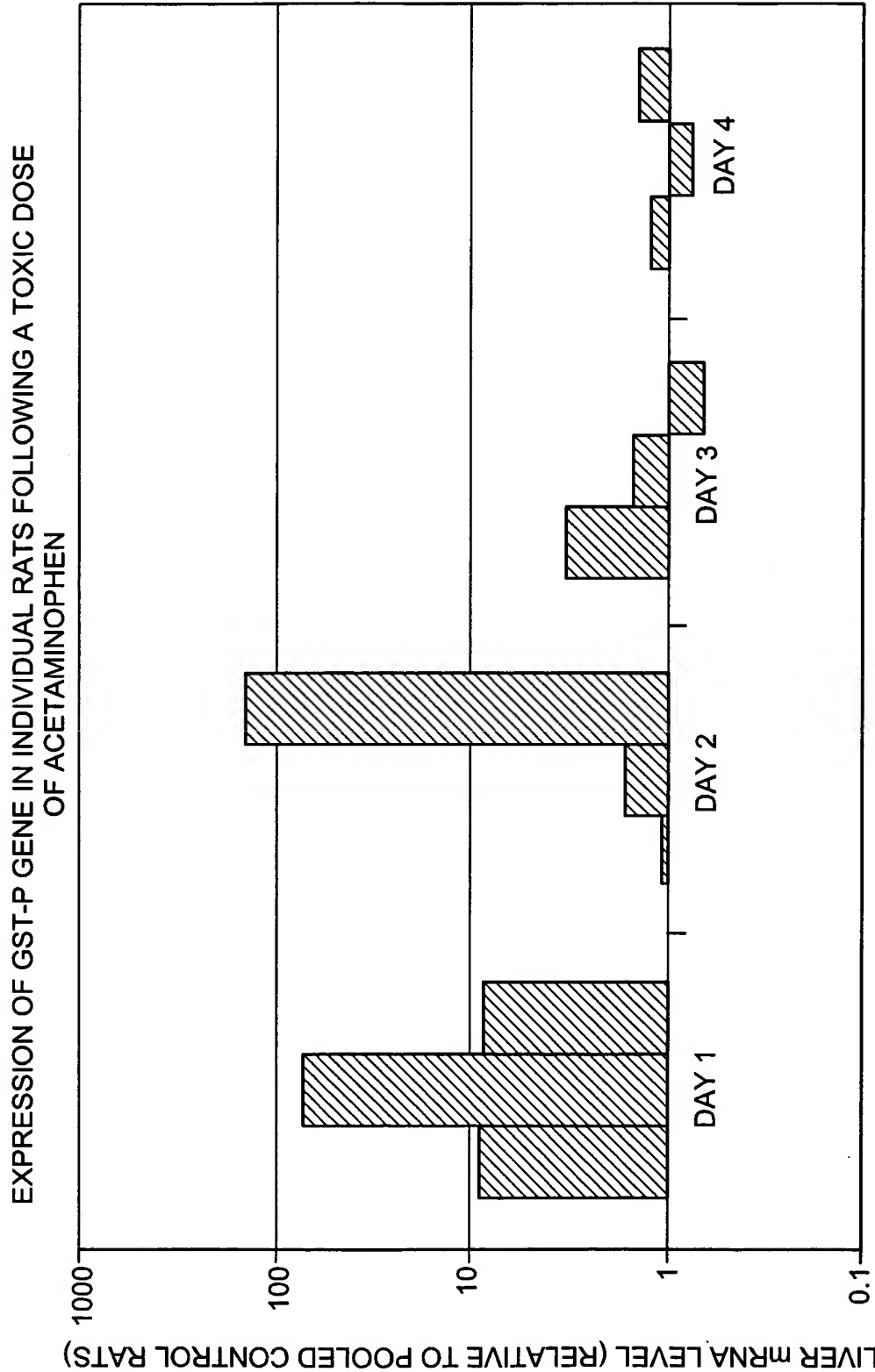


FIG. 20

COMPARATIVE HERBAL PROFILING SHOWS DIFFERENCES AMONG ANTI-INFLAMMATORY HERBS SUCH AS ECHINACEA, ARNICA AND SIBERIAN GINSENG

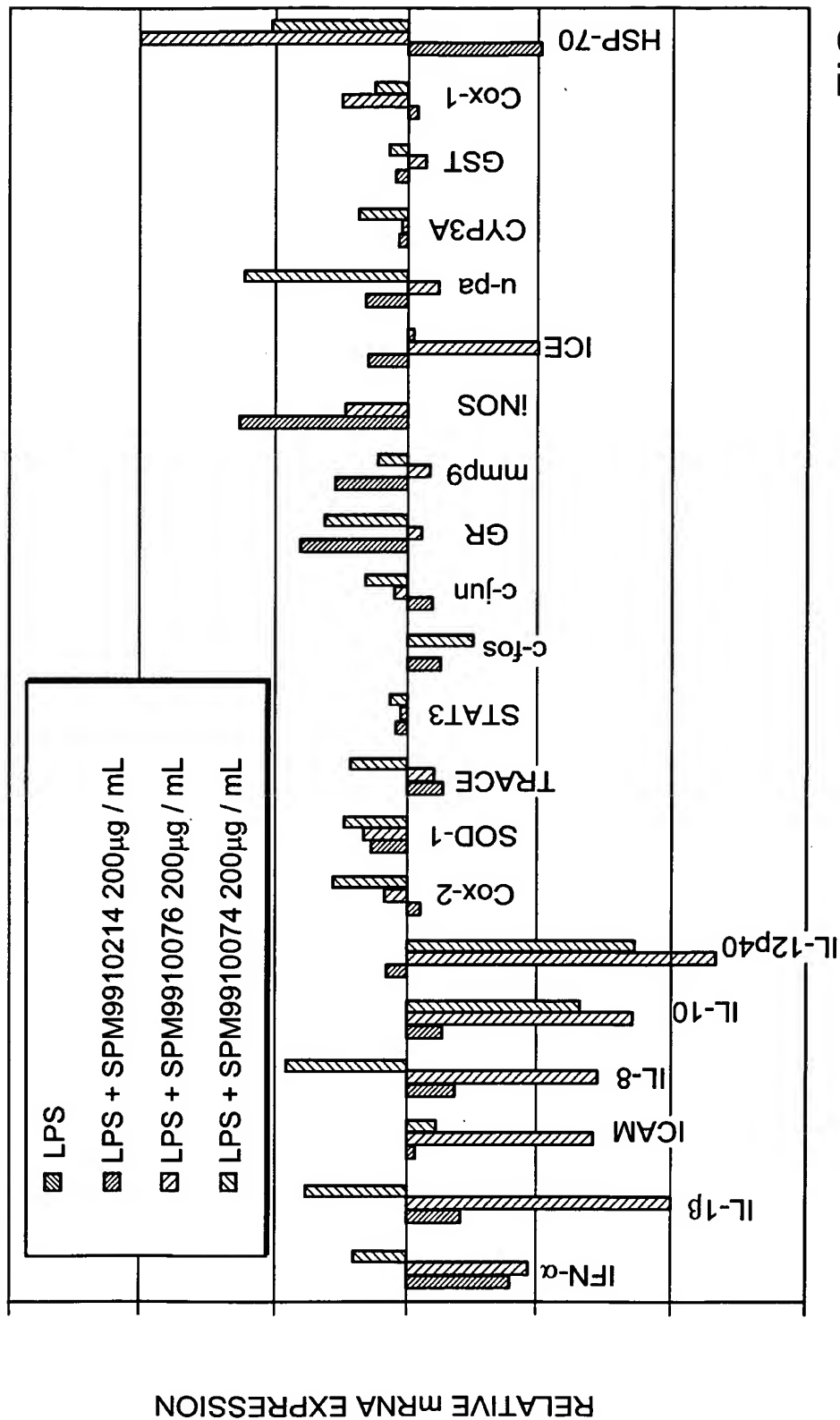


FIG. 21

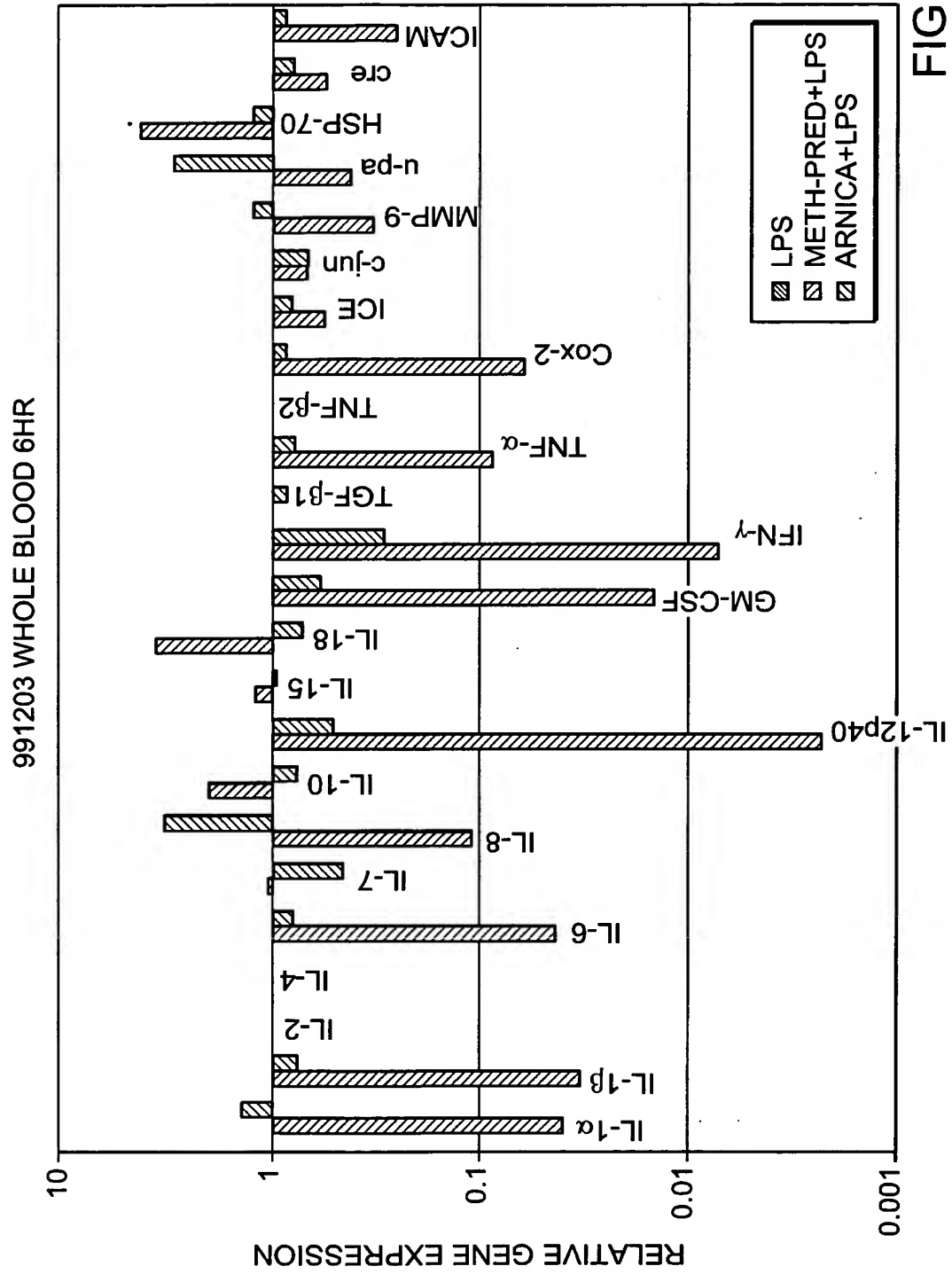


FIG. 22



SELECTED PROFILES CAN CORRELATE WITH A DOSE RESPONSE FOR A GIVEN HERBAL

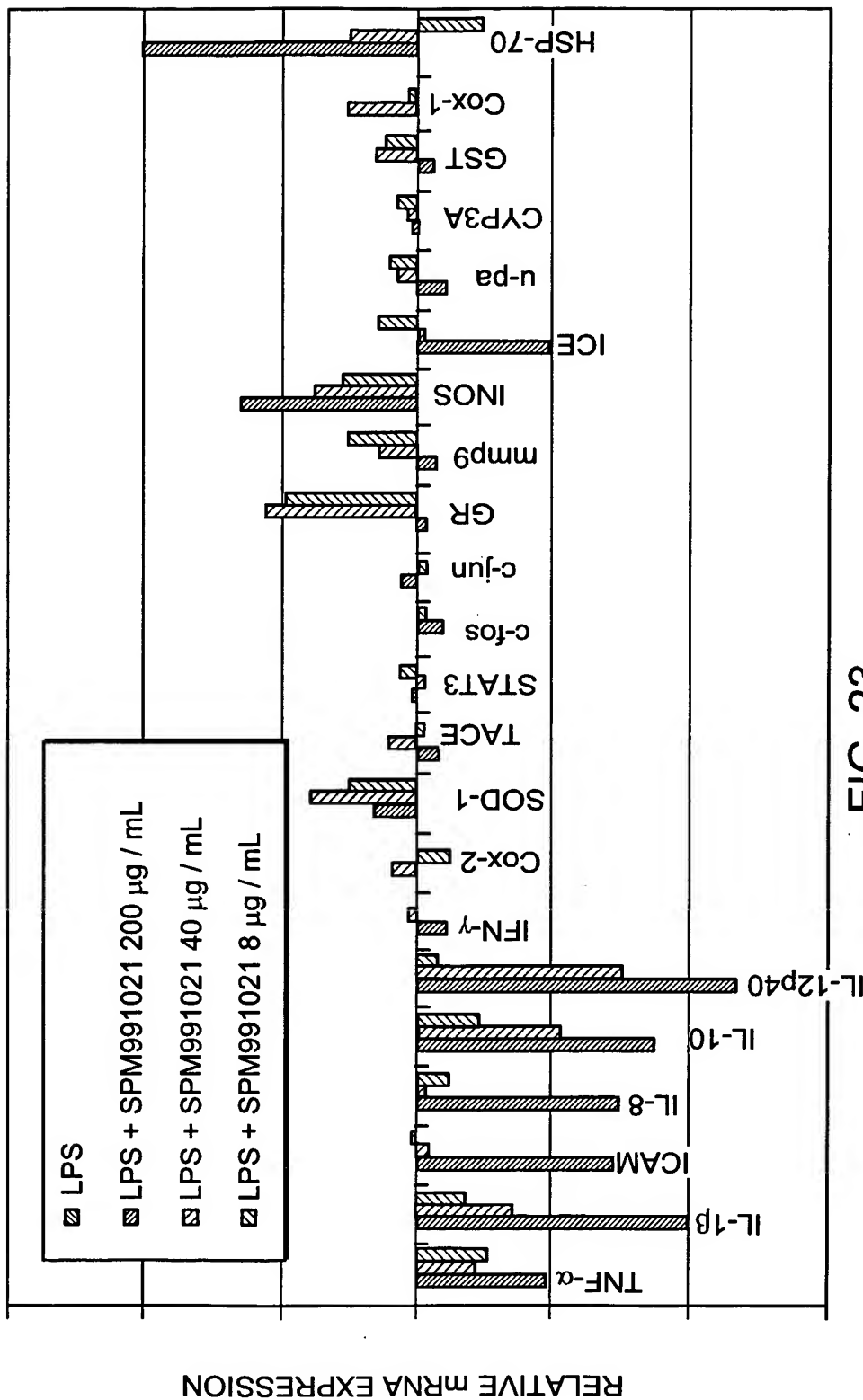


FIG. 23

SELECTED PROFILES REVEAL CONTAMINATION WITH ENDOTOXIN  
AMONG DIFFERENT COMMERCIAL BRANDS AS REVEALED IN SPM010  
AND SPM016

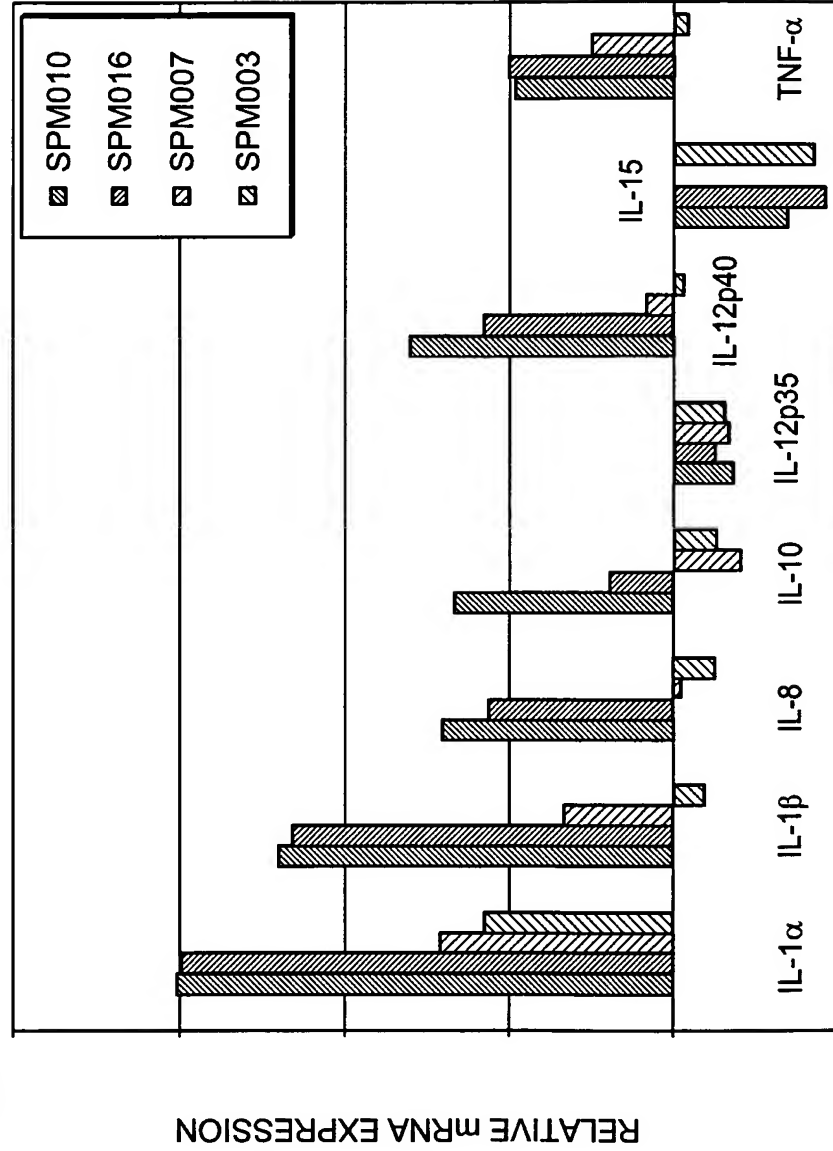


FIG. 24

HIGH DOSE COMPARISON OF UNSTIMULATED THP-1 CELL  
TREATMENT WITH THREE HERBAL PREPARATIONS SHOWS SIGNIFICANT  
VARIATION IN EFFICACY

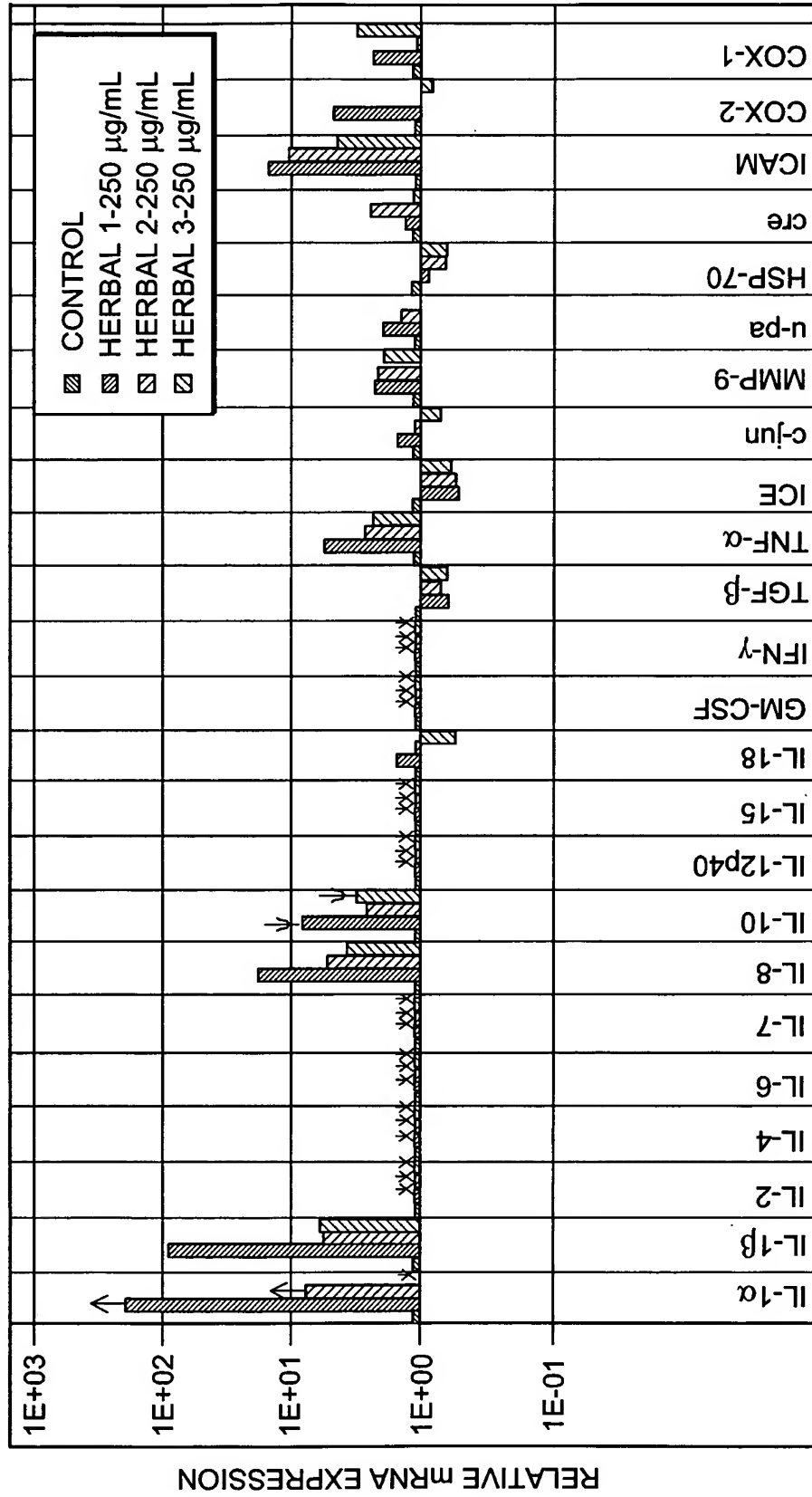


FIG. 25a

TREATMENT OF UNSTIMULATED THP-1 CELLS WITH A SINGLE  
HERBAL SHOWS A NICE DOSE RESPONSE AMONG A SUBSET OF  
GENES

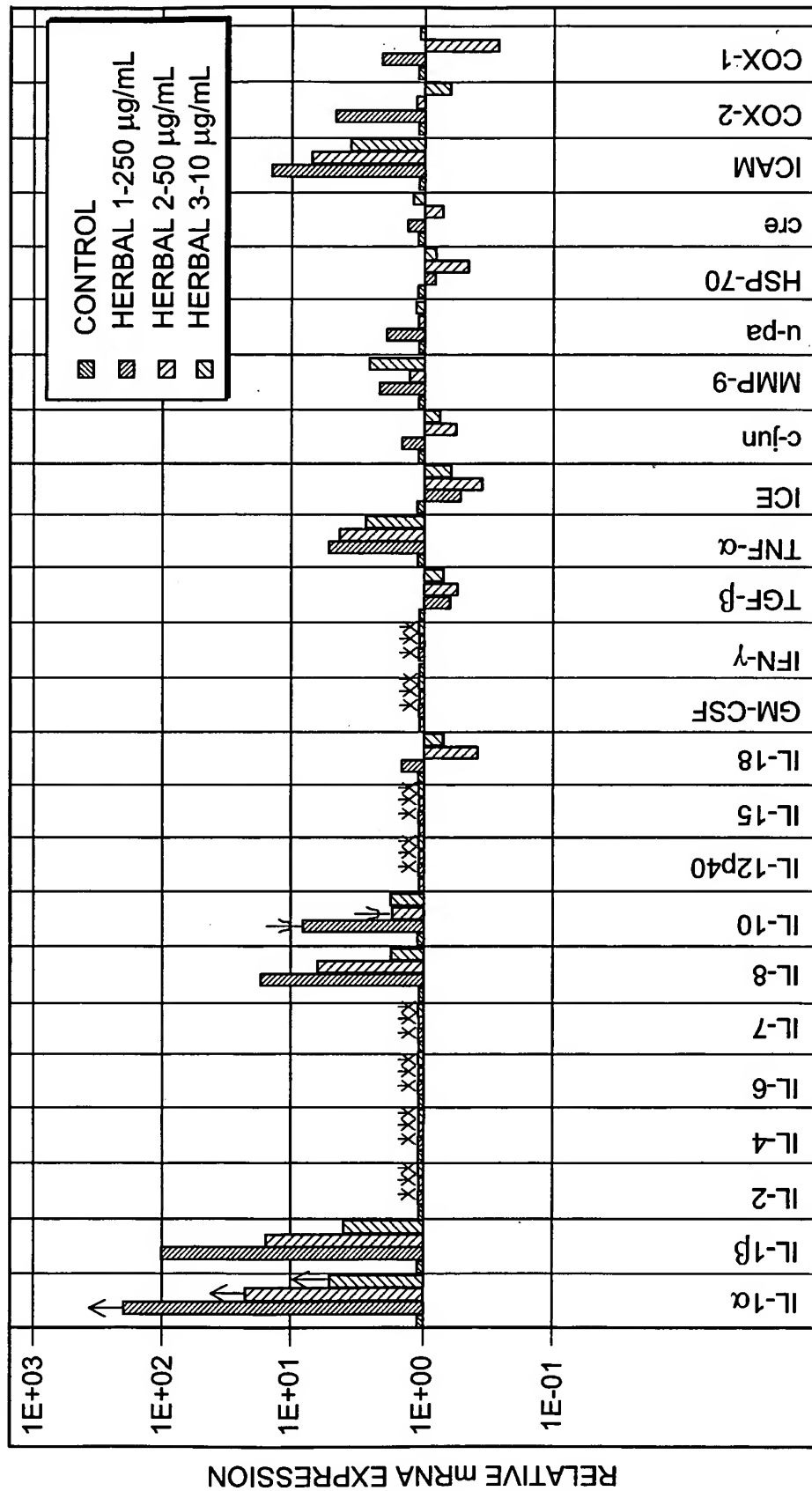


FIG. 25b

SELECTED PROFILES ALLOW FOR COMPARISON OF  
COMMERCIAL ECHINACEAS (E1-E4)

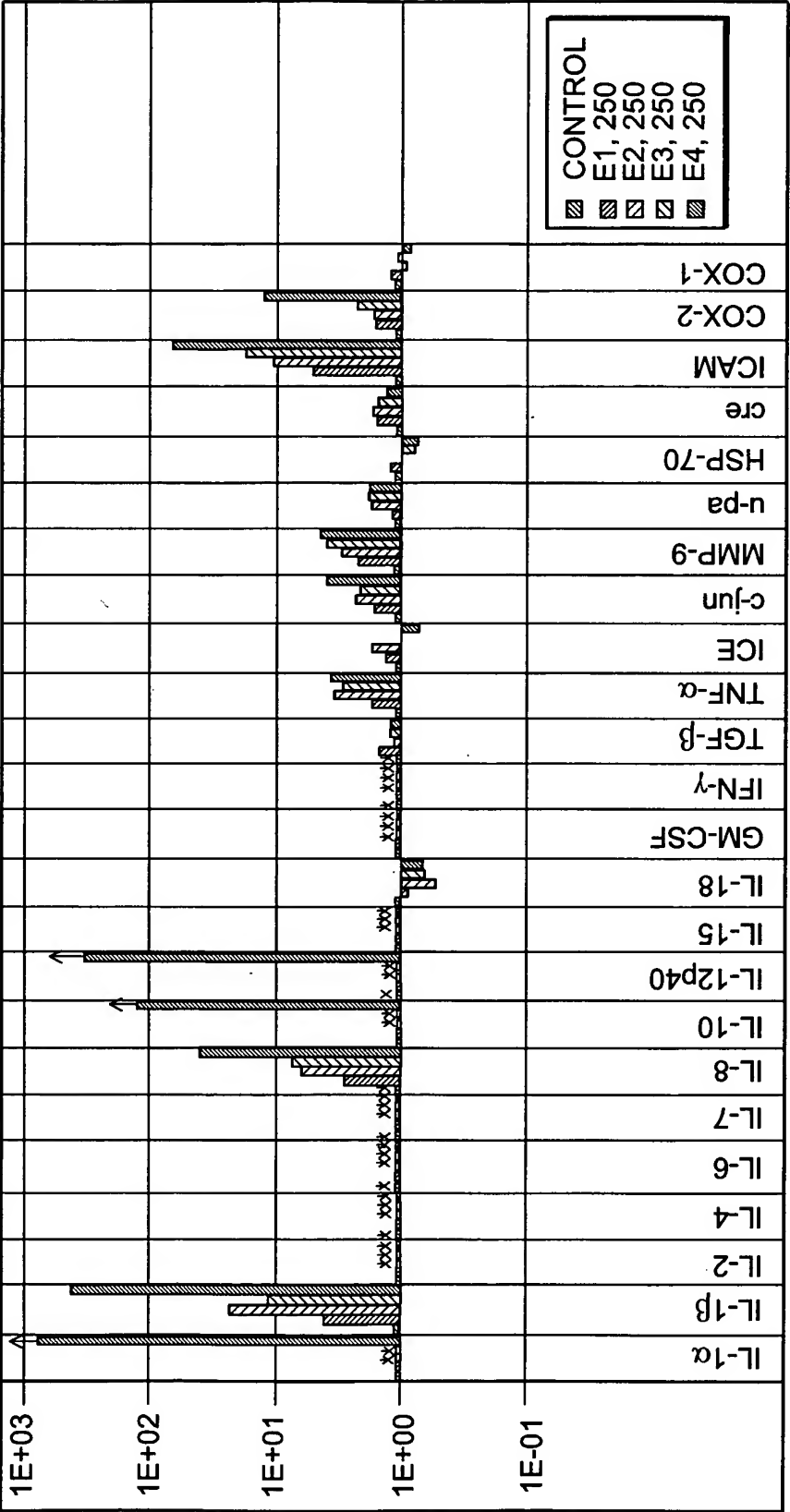


FIG. 25c

INFLAMMATION SELECTED PANEL SUBSET  
DEMONSTRATES STEROID RESPONSE IN 3 DAY STUDY

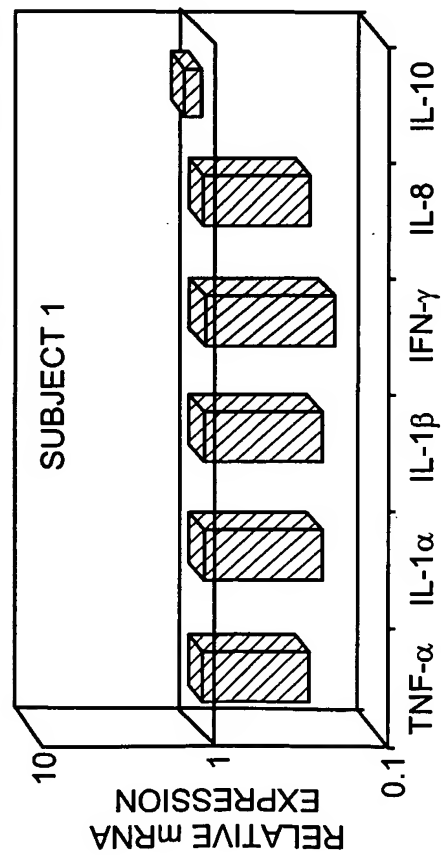


FIG. 26a

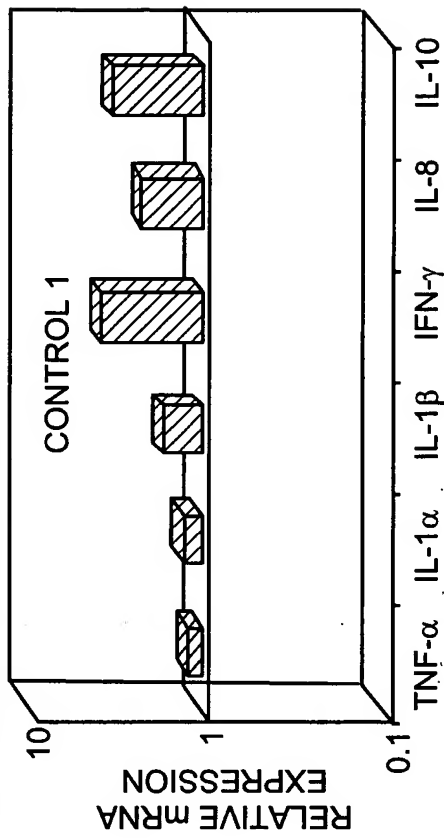


FIG. 26b

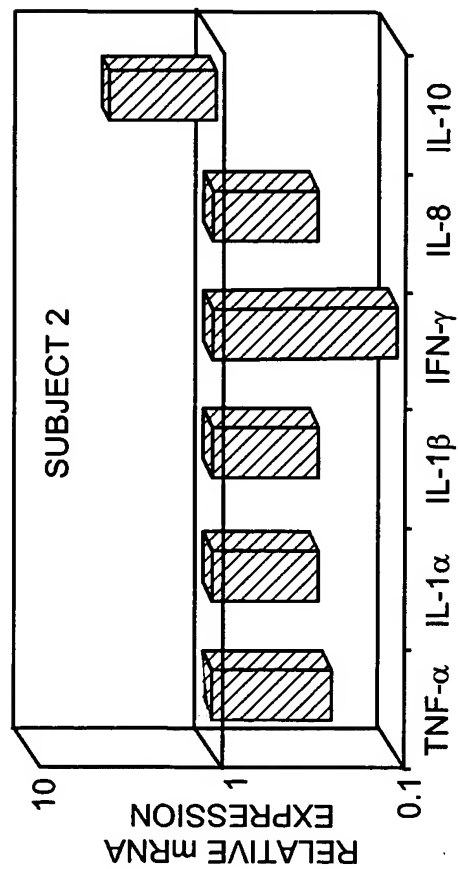


FIG. 26c

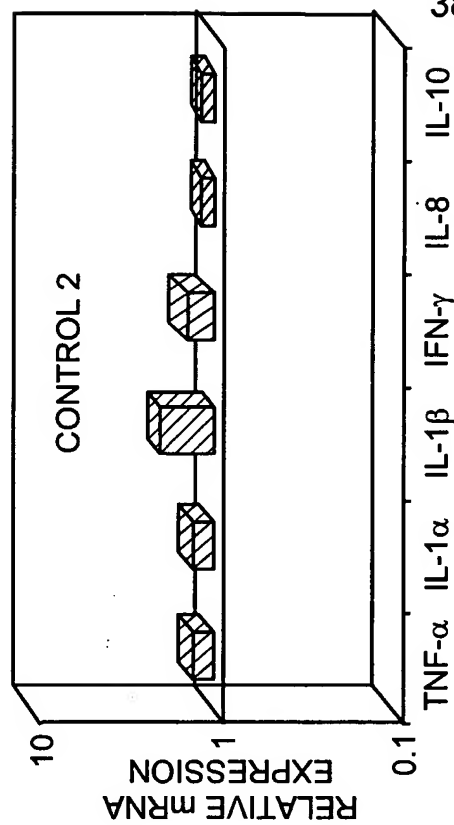
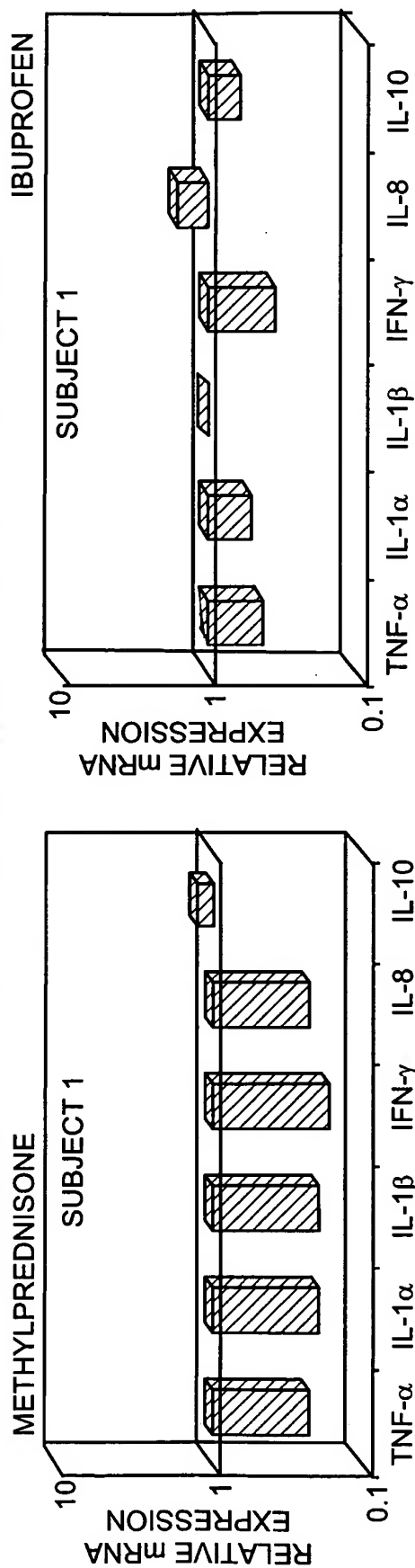
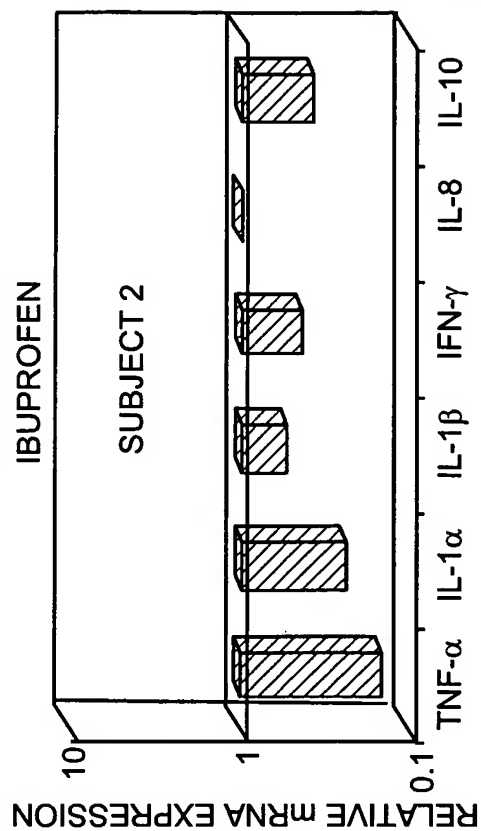


FIG. 26d

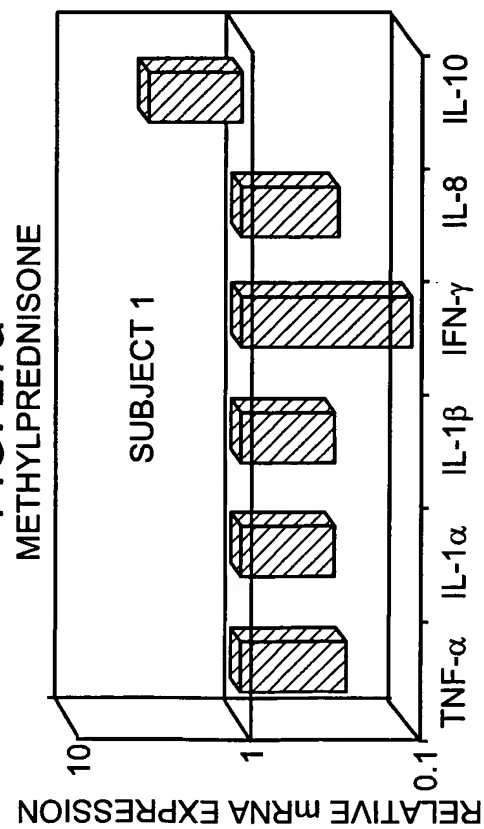
COMPARISON OF METHYLPREDNISONE AND HIGH-DOSE  
IBUPROFEN IN PATIENTS USING INFLAMMATION SELECTED PANEL SUBSET



**FIG. 27b**



**FIG. 27d**



**FIG. 27c**

# INFLAMMATION SELECTED PANEL SUBSET IDENTIFIES COPD PATIENTS

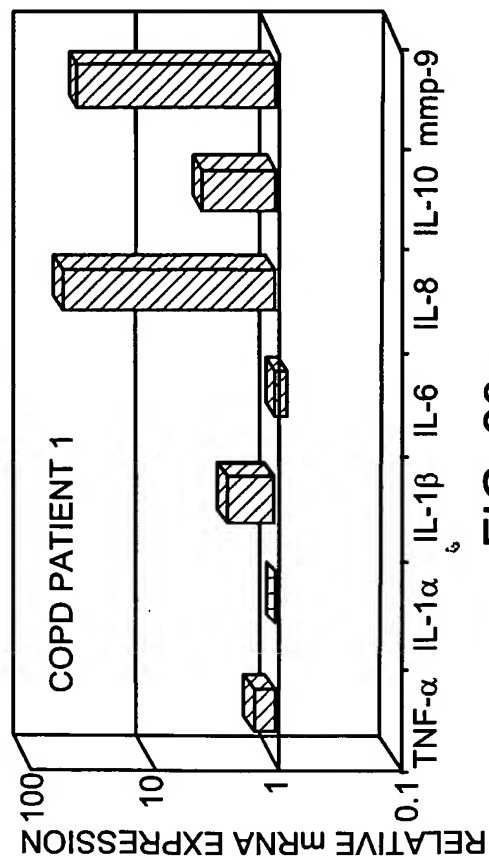


FIG. 28a

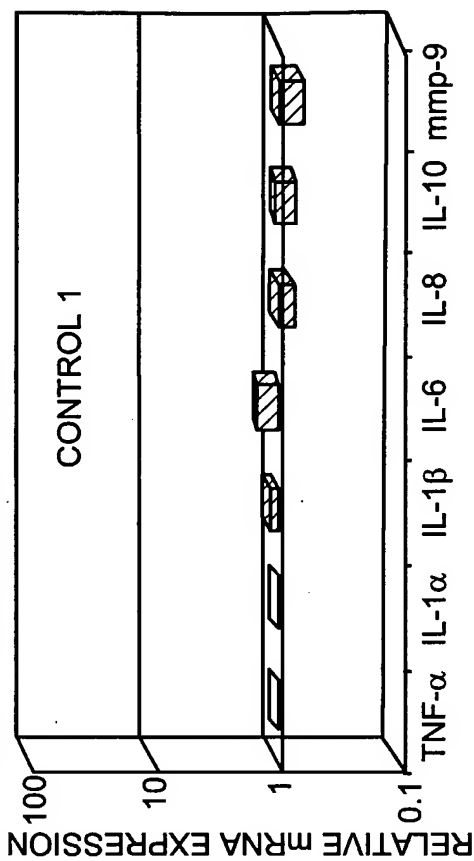


FIG. 28b

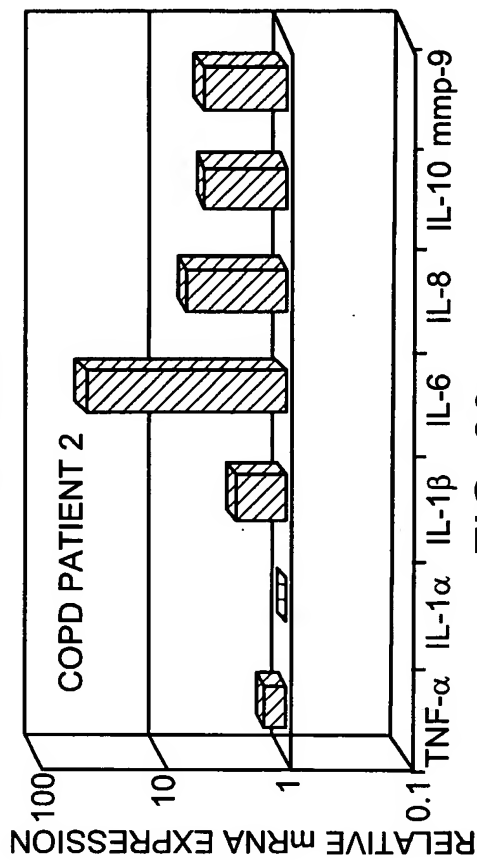


FIG. 28c

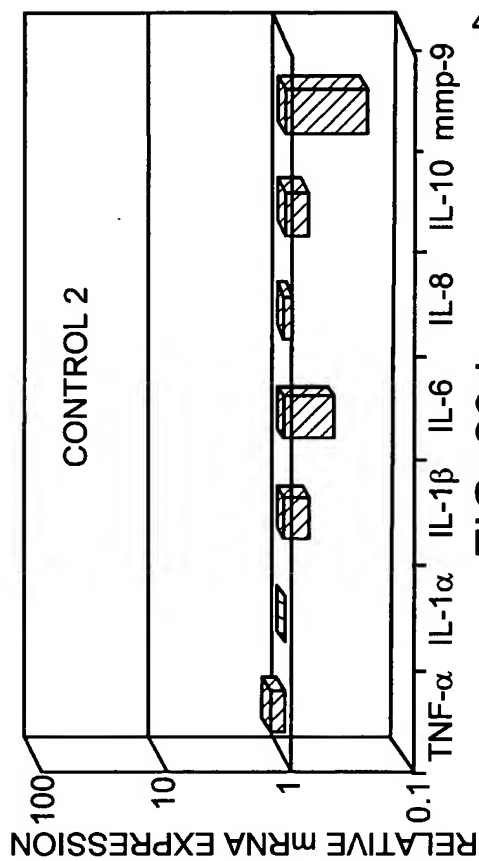


FIG. 28d



COMPARISON OF CALIBRATED PROFILE DATA SETS (USING INFLAMMATION SELECTED  
PANEL SUBSET) AFTER IN-VITRO AND IN-VIVO DRUG EXPOSURE (STEROIDS)--STUDY 1

AUGUST 1999  
SUBJECT 1JC

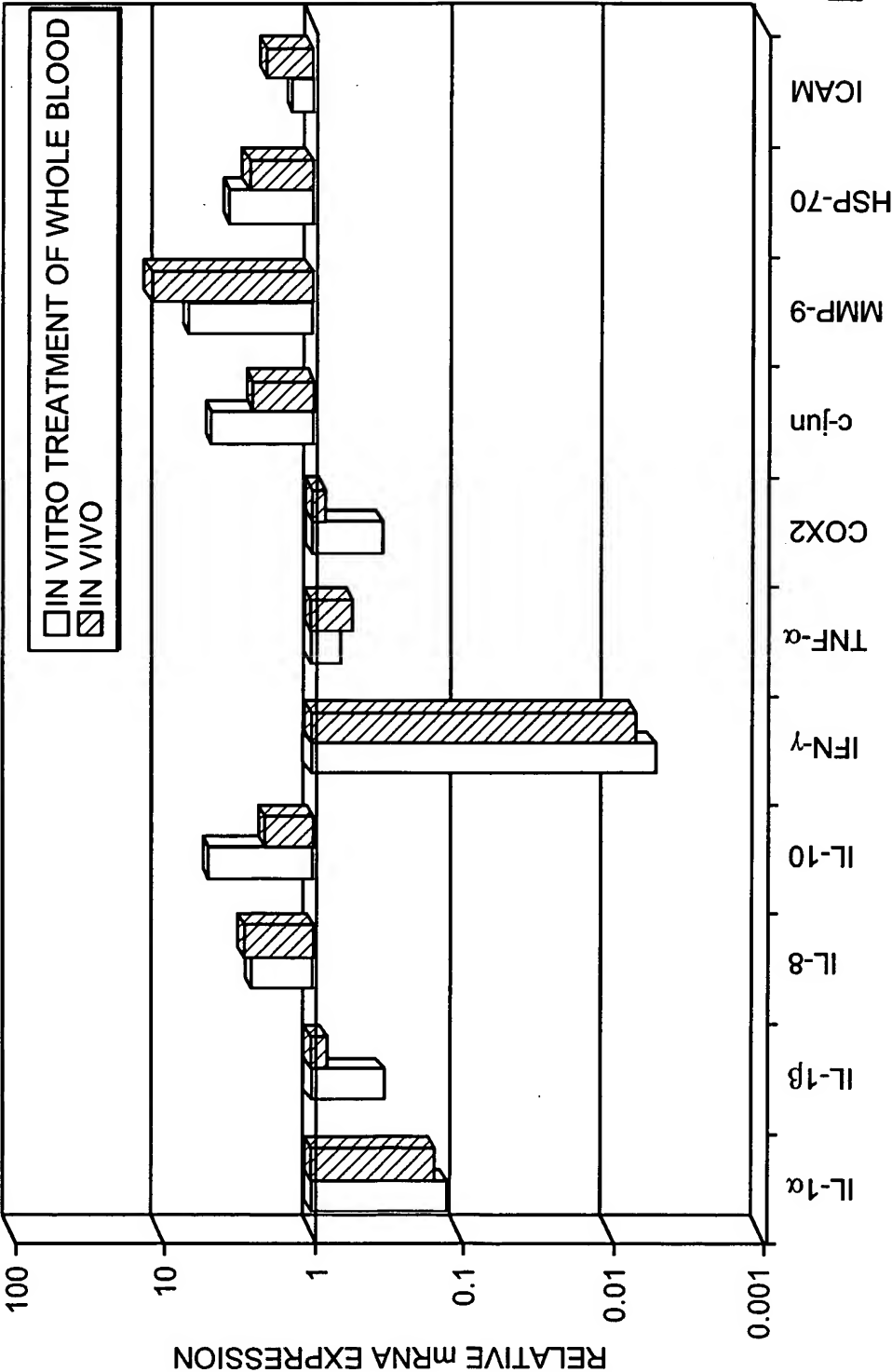


FIG. 29a

COMPARISON OF CALIBRATED PROFILE DATA SETS (USING INFLAMMATION SELECTED  
 PANEL SUBSET) AFTER IN-VITRO AND IN-VIVO DRUG EXPOSURE (STEROIDS)--STUDY 2

AUGUST 2000  
 SUBJECT 1JC

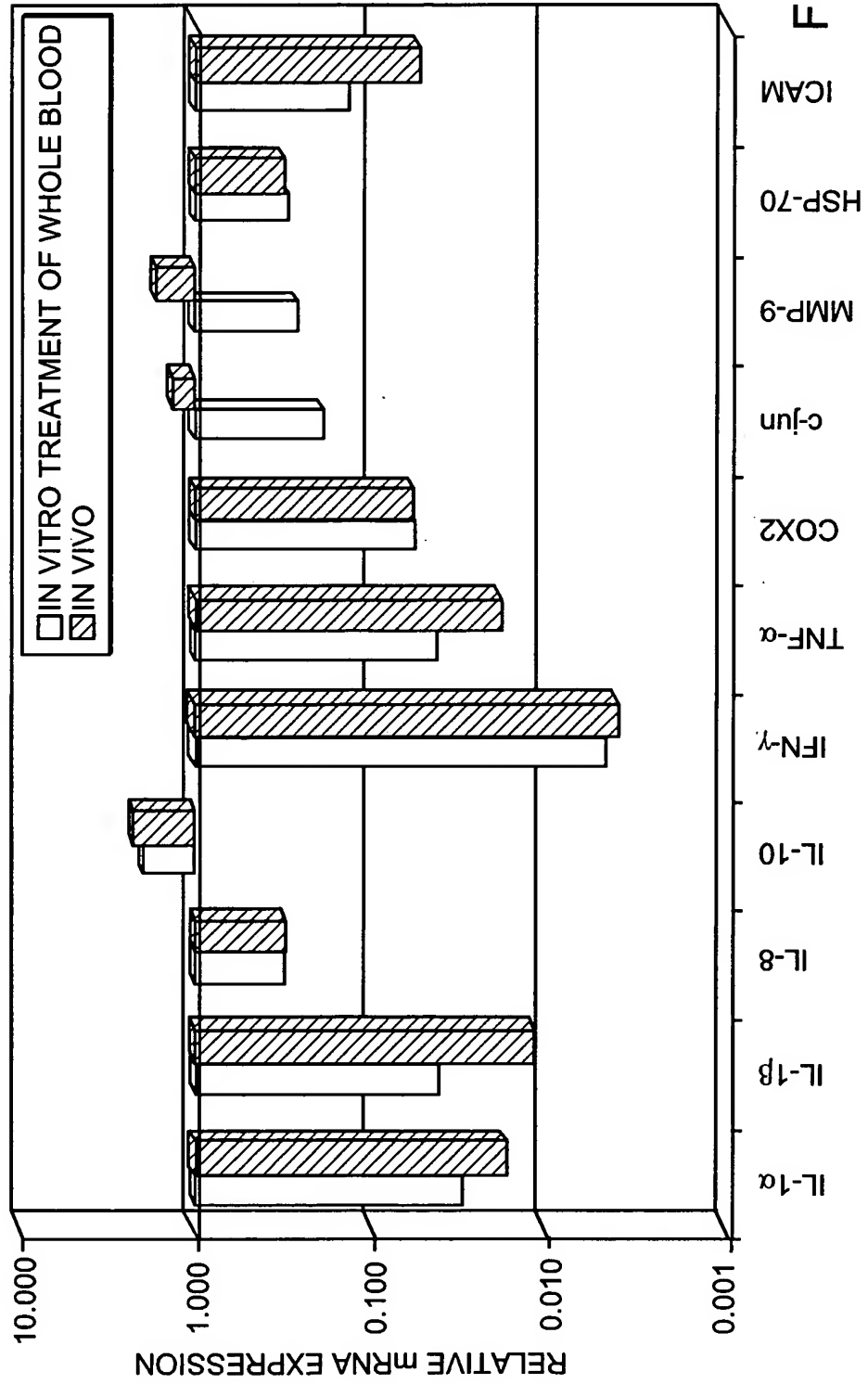
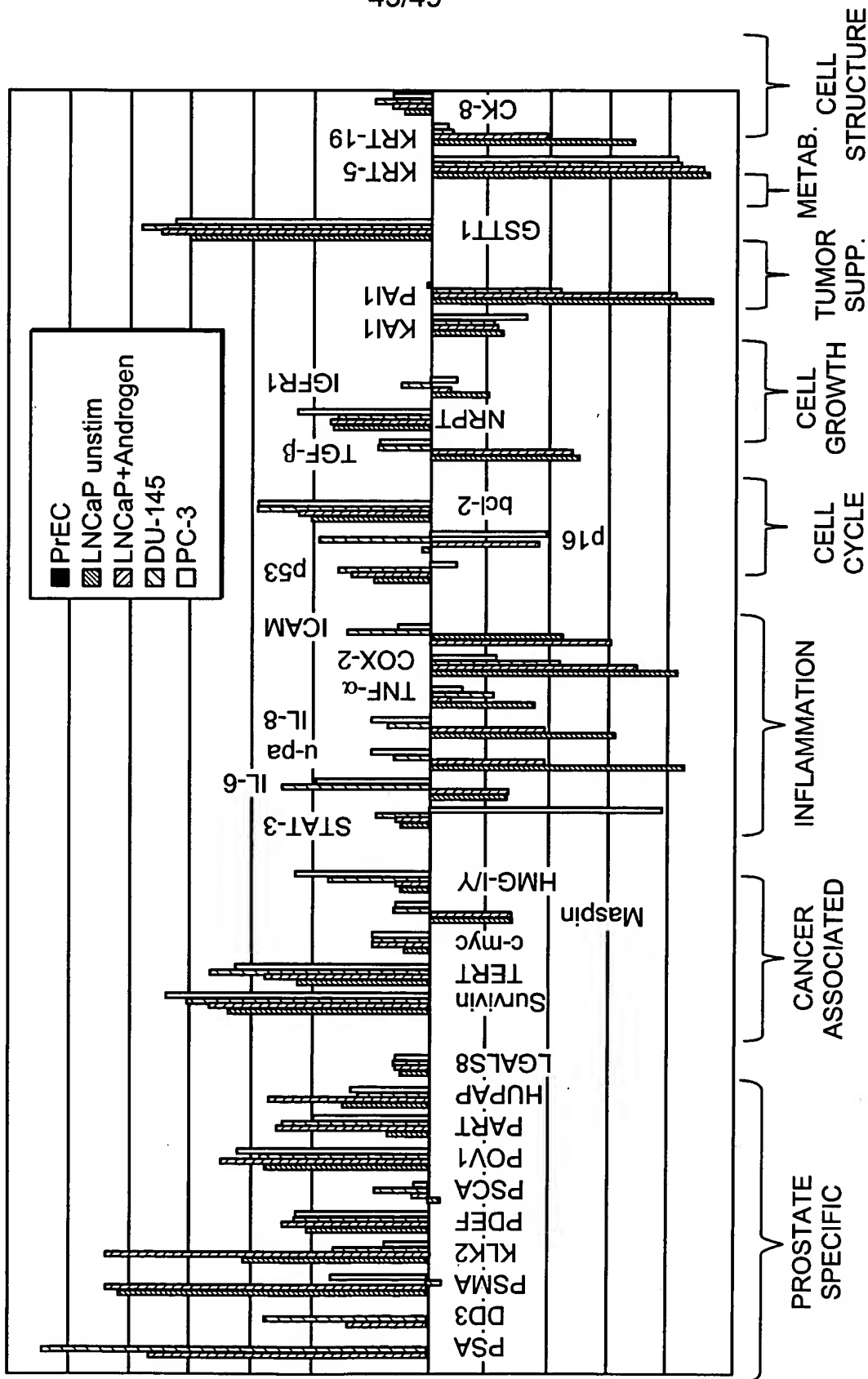


FIG. 29b

EFFECT OF DIFFERENT AGENTS EVALUATED USING A SUBSET OF THE SELECTED PROSTATE PANEL, AND SHOWING BROAD FUNCTIONS OF PANEL CONSTITUENTS

FIG. 30



EFFECT OF THE PHARMACEUTICAL CLOFIBRATE AS MEASURED ON RAT LIVER METABOLISM SELECTED PANEL

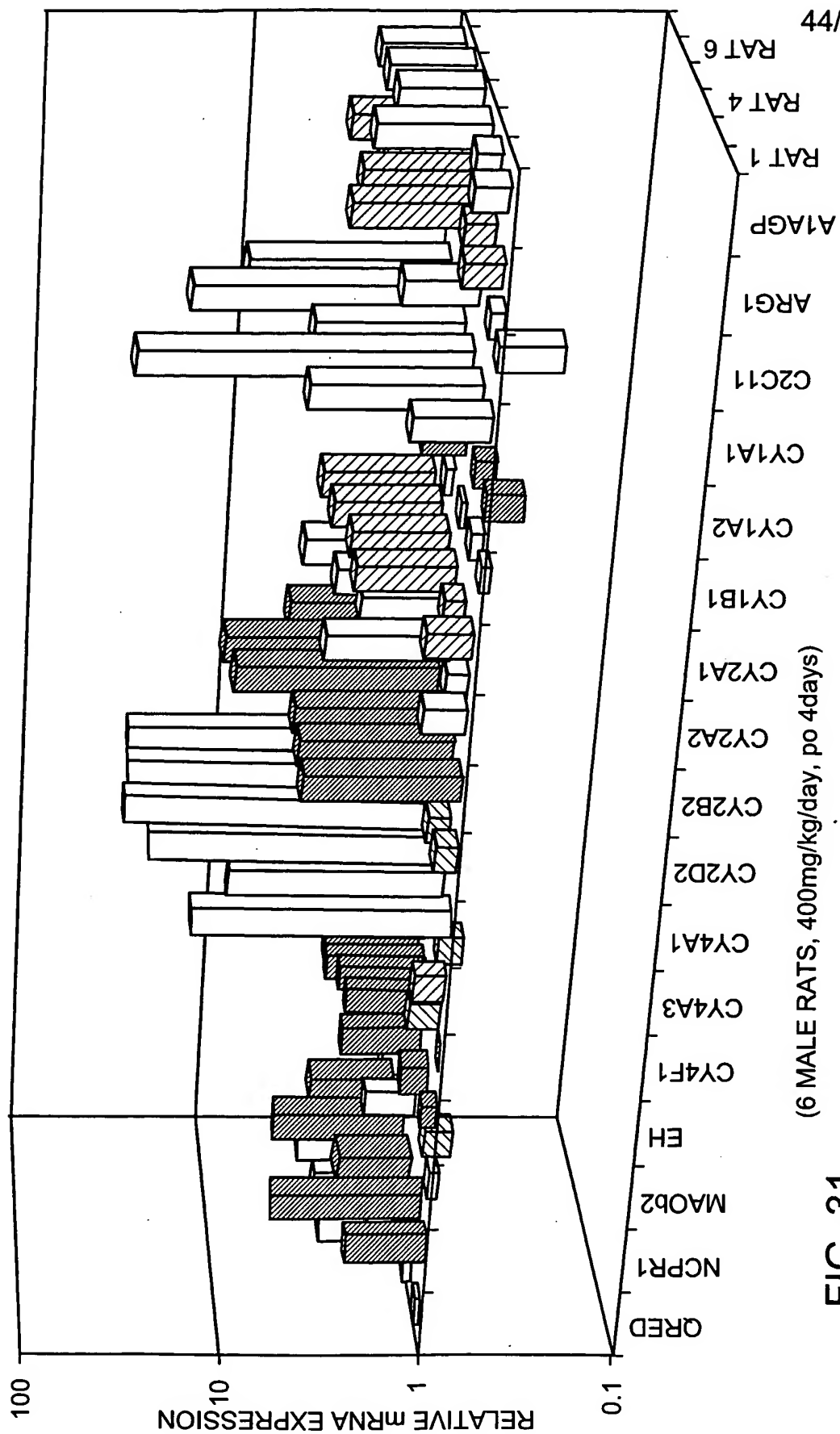


FIG. 31

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# A METABOLISM SELECTED PANEL DIFFERENTIATES DRUG RESPONSES IN RATS.

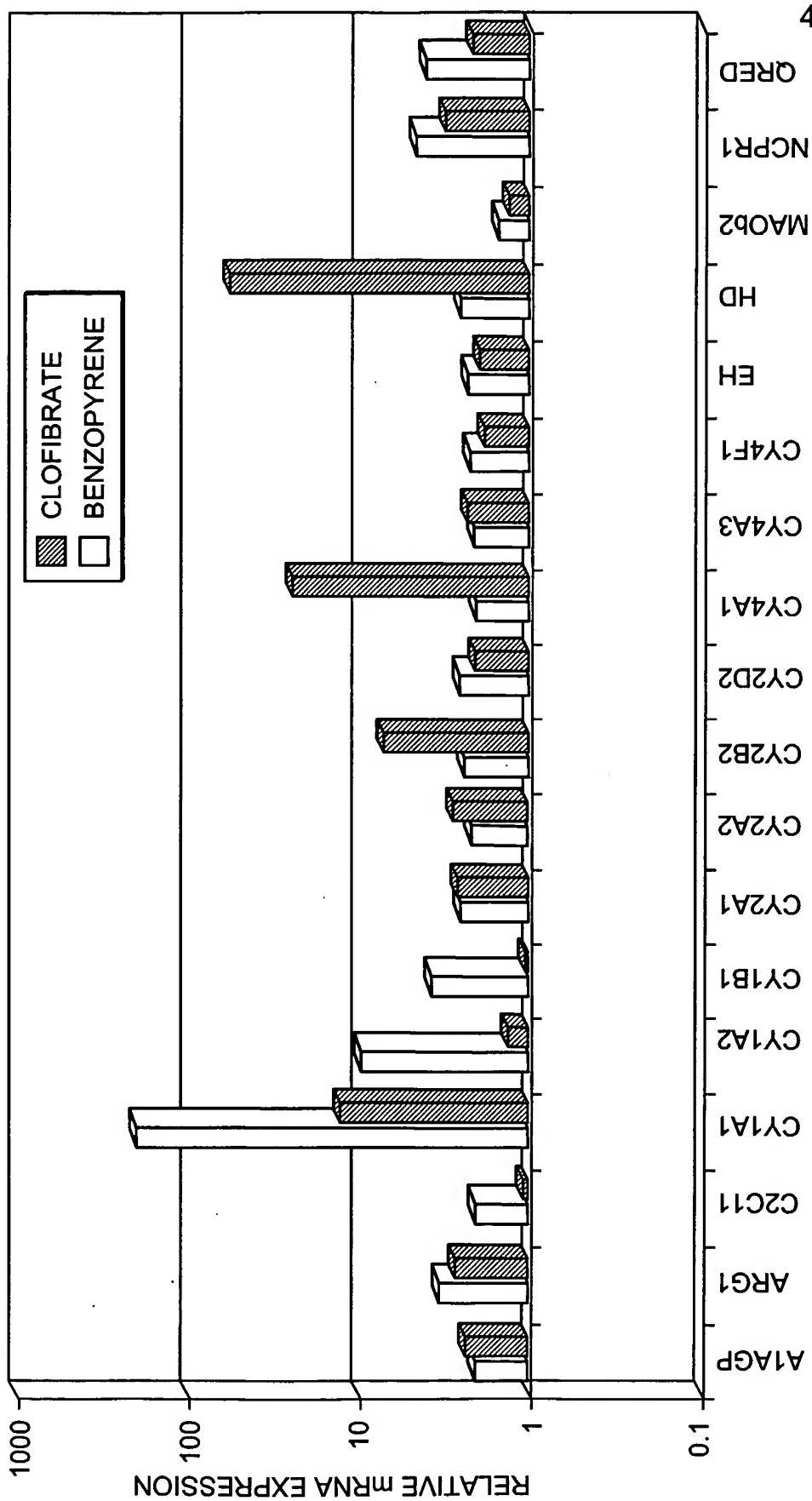
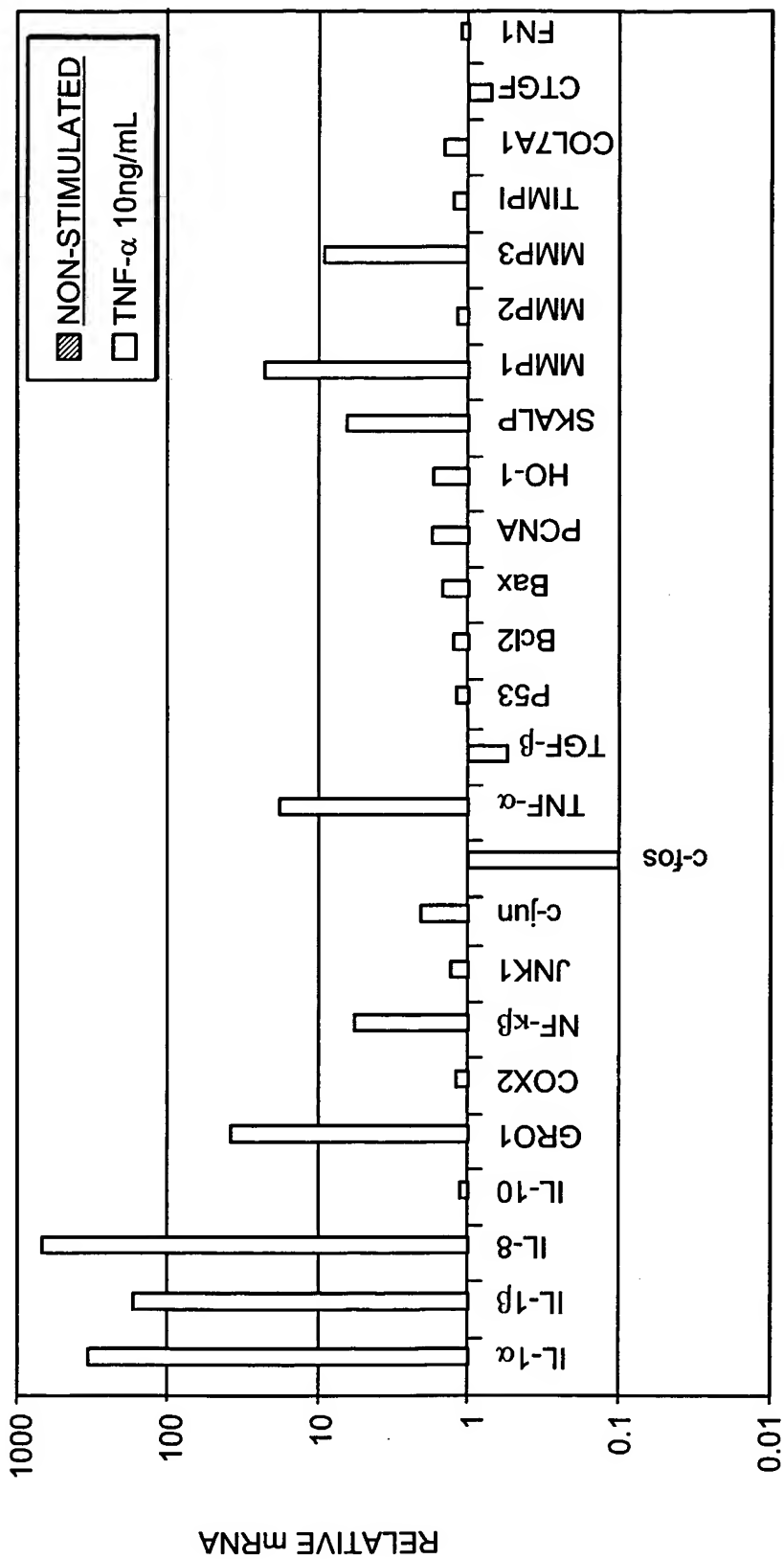
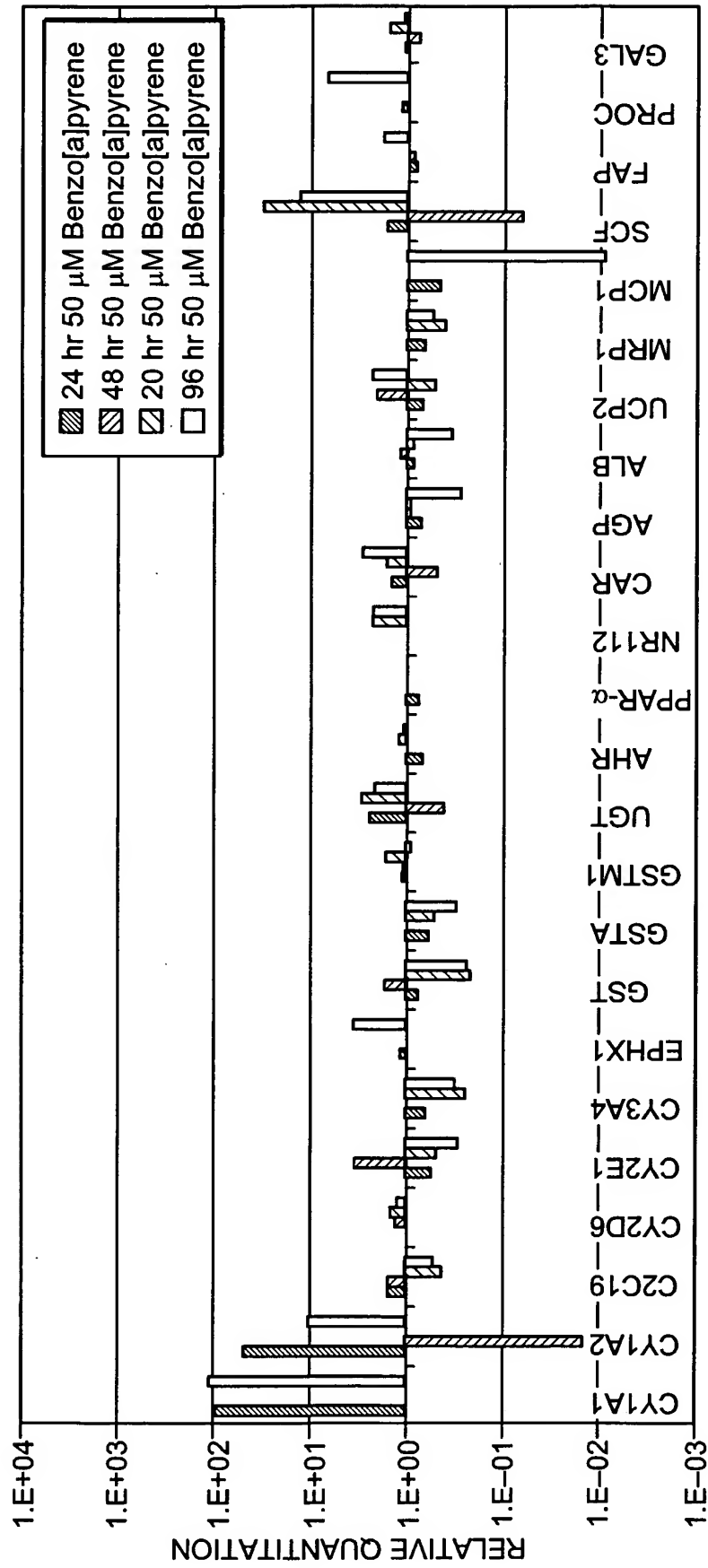


FIG. 32

A COMBINATION OF THE SKIN/EPITHELIAL AND VASCULAR SELECTED PANELS SHOW THE EFFECT OF ADMINISTRATION OF A STIMULANT.



EXAMPLE USE OF THE HUMAN LIVER SELECTED PANEL



Loci

FIG. 34

HUMAN UMBILICAL VEIN CELLS TREATED WITH TNF- $\alpha$  AND ASSAYED ON THE VASCULAR SELECTED PANEL  
 HUVEC STIMULATED WITH TNF- $\alpha$ , t = 24hr

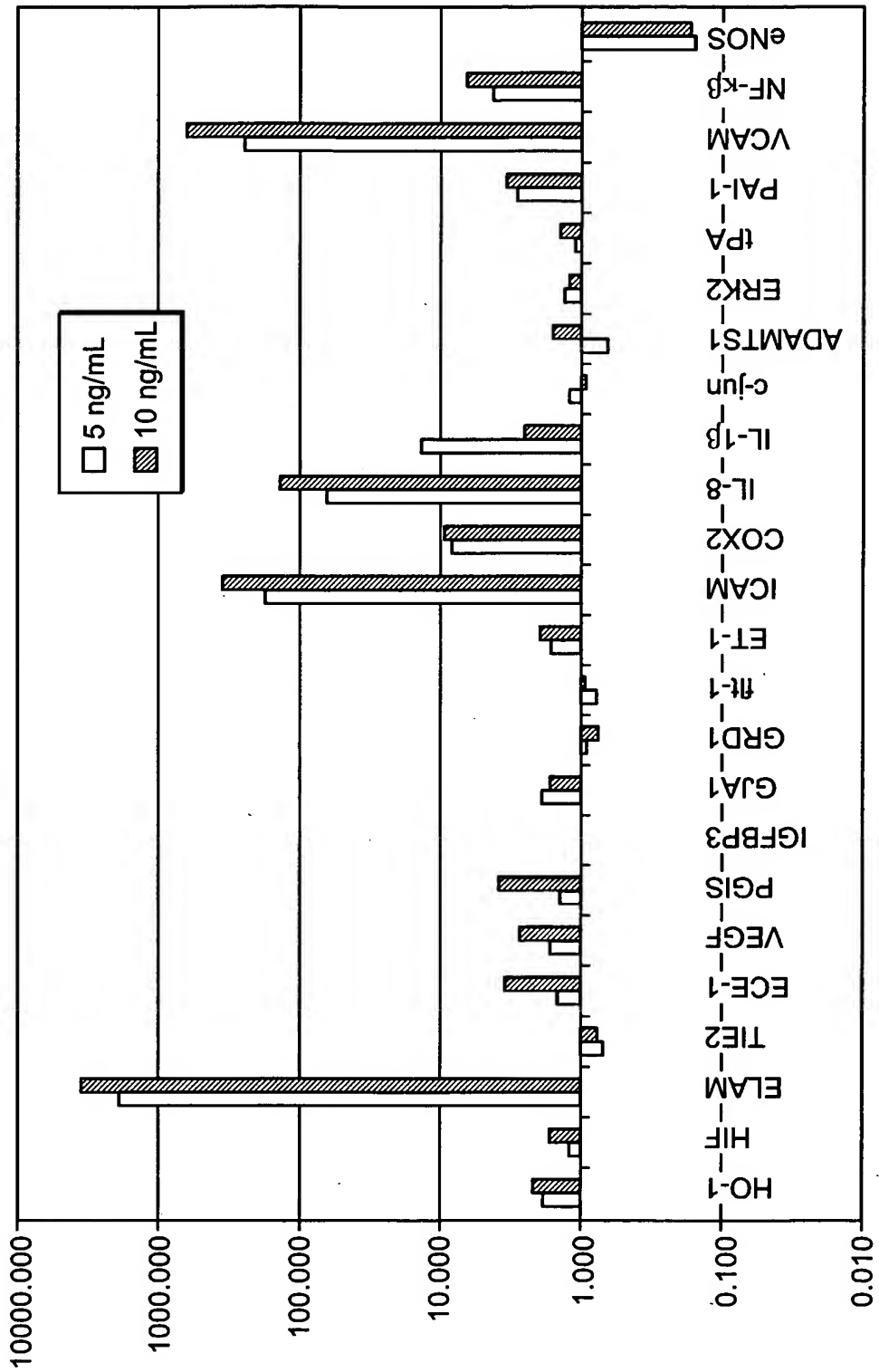


FIG. 35



ASSAY OF STIMULATED, HUMAN KERATINOCYTES ON THE SKIN SELECTED PANEL  
EFFECTS OF N-ACETYLCYSTEINE ON UVB-STIMULATED KERATINOCYTES

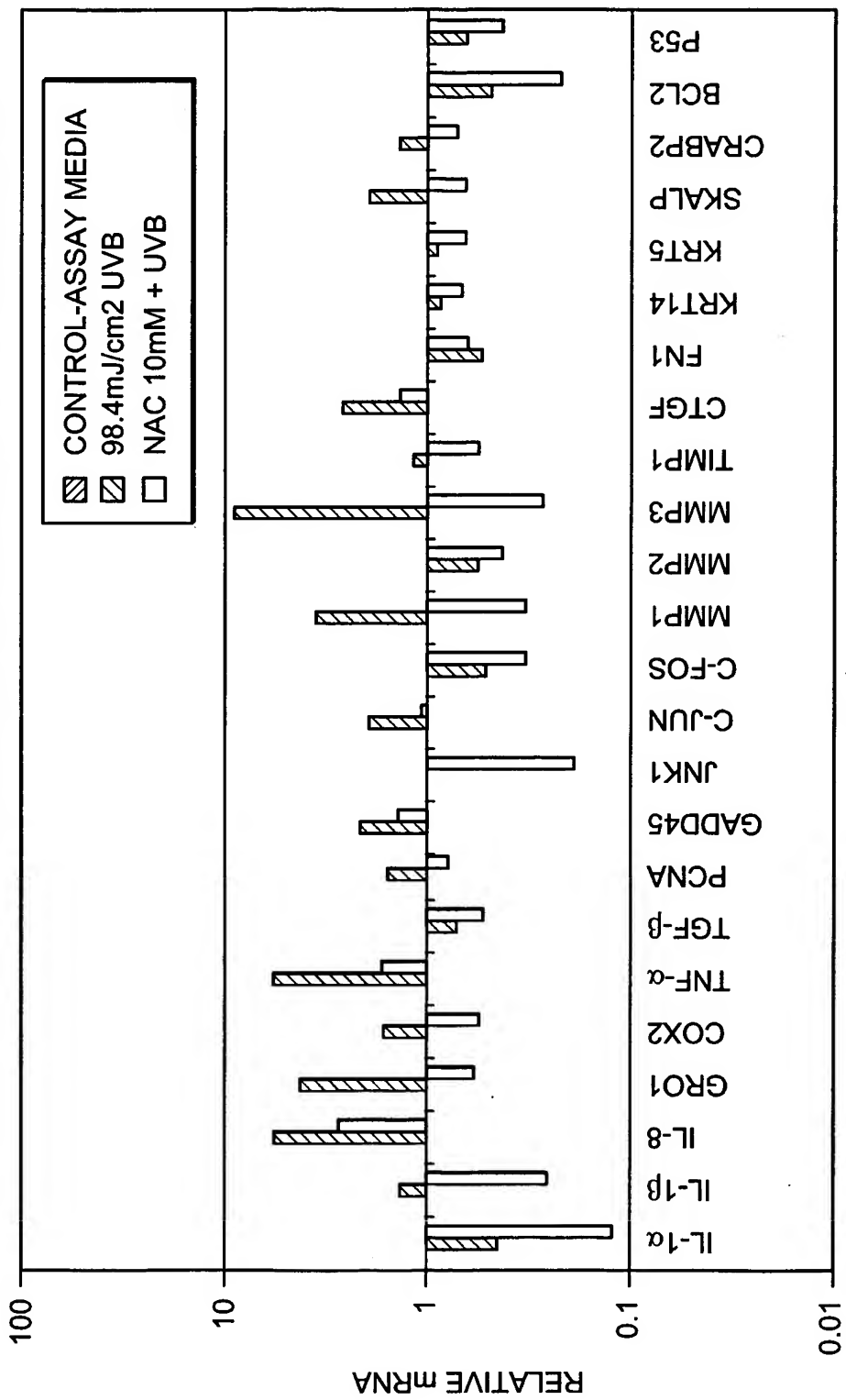


FIG. 36